



Town of Arlington, MA Redevelopment Board

Agenda & Meeting Notice March 1, 2021

This meeting is being held remotely in accordance with the Governor's March 12, 2020 Order Suspending Certain Provisions of the Open Meeting Law G.L. c. 30A, Section 20. Public comments will be accepted during the public comment periods designated in the agenda. Per Board Rules and Regulations, public comments will be accepted during the public comment periods designated on the agenda. Written comments may be provided by email to jraitt@town.arlington.ma.us by March 1, 2021 at 4:00 p.m. The Board requests that correspondence that includes visual information should be provided by February 26, 2021 at 12:00 p.m.

The Arlington Redevelopment Board will meet Monday, March 1, 2021 at 7:00 PM in the
This meeting will be held via Zoom Meeting with audio and video by using this link and Meeting ID: <https://town-arlington-ma-us.zoom.us/j/99259100788> Meeting ID: 992 5910 0788 or by phone: 1-646-876-9923, enter Meeting ID 992 5910 0788 then "#"

1. Public Hearings

7:00 p.m.

- For each public hearing, applicants will be provided 5 minutes for a presentation.
- DPCD staff will be provided 3 minutes to discuss public hearing memo.
- Members of the public will be provided time to comment.
- Board members will discuss each docket and may vote.

Docket #3647, 10 Sunnyside Avenue

Public Hearing

Board will open a public hearing for Special Permit #3647 to review an application filed by MB Realty Group, LLC, 339 Massachusetts Avenue, Arlington, MA, on January 26, 2021, in accordance with the provisions of MGL Chapter 40A § 11, and the Town of Arlington Zoning Bylaw Section 3.4, Environmental Design Review. The applicant proposes to reconstruct a mixed-use building containing general office space and five residential condominiums at 10 Sunnyside Avenue, Arlington, MA in the B4 Vehicular Oriented Business District. The opening of the Special Permit is to allow the Board to review and approve the development under Section 3.4, Environmental Design Review.

Docket #3638, 400-402 Massachusetts Avenue

Continued Public Hearing

Board will continue public hearing for Special Permit #3638 to review application filed on October 15, 2020 and supplemented on November 5,

2020, by 400-402 Mass Avenue, LLC, at 400-402 Massachusetts Avenue, Arlington, MA, in accordance with the provisions of MGL Chapter 40A § 11, and the Town of Arlington Zoning Bylaw Section 3.4, Environmental Design Review. The applicant proposes to establish a mixed-use building with four (4) residential units and one (1) office unit in an existing building in a B1 Neighborhood Office District. The opening of the Special Permit is to allow the Board to review and approve the development under Section 3.4, Environmental Design Review.

2. Update on Special Permits issued by the Redevelopment Board 2016-2020

7:45 p.m. Board will receive update on special permits issued by the Redevelopment Board from 2016-2020.

3. Warrant Article Public Hearings

8:00 p.m. A brief introductory presentation will be provided for each article

Board members and members of the public will be provided time to ask questions and comment for each article

Warrant Article Public Hearings

2021 Annual Town Meeting

ARTICLE 39

ZONING BYLAW AMENDMENT/ CLARIFICATION OF DEFINITION OF MIXED USE

To see if the Town will vote to amend the definition of Mixed Use in the Zoning Bylaw to clarify that as enacted by Town Meeting, land uses individually prohibited in any particular zoning district are also prohibited as part of Mixed Use developments in the same zoning district; or take any action related thereto.

(Inserted at the request of Christopher Loreti and 10 registered voters)

ARTICLE 40

ZONING BYLAW AMENDMENT/CONVERSION OF COMMERCIAL TO RESIDENTIAL

To see if the Town will vote to amend the Zoning Bylaw in Section 5.2.4, by inserting in the last sentence of said section, after the word footprint, the words "if allowed by special permit" and by inserting, after the words residential use, the words "provided that the addition or expansion is for affordable housing" so that said sentence will read as follows: In the case of an existing commercial use, the addition or expansion of residential use within the building footprint if allowed by special permit shall not require adherence to setback regulations for residential uses, provided that the addition or expansion is for affordable housing, even if the residential use becomes the principal use of the building; or take any action related thereto.

(Inserted at the request of John L. Worden III and 10 registered voters)

ARTICLE 34

ZONING BYLAW AMENDMENT/ MARIJUANA USES

To see if the Town will vote to amend the Zoning Bylaw to allow Marijuana Delivery-Only Retailers and other amendments for consistency with the state regulations for the adult use of marijuana and the medical use of marijuana by amending SECTION 2 DEFINITIONS, SECTION 5.5.3. USE

REGULATIONS FOR BUSINESS DISTRICTS, SECTION 5.6.3. USE REGULATIONS FOR MU, PUD, I, T, AND OS DISTRICTS, and SECTION 8.3 STANDARDS FOR MARIJUANA USES; or take any action related thereto.

(Inserted at the request of the Redevelopment Board)

ARTICLE 28

ZONING BYLAW AMENDMENT/ AFFORDABLE HOUSING REQUIREMENTS

To see if the Town will vote to amend the Zoning Bylaw to increase the time during which the affordable housing requirements apply from a two-year period to a three-year period in alignment with G.L. c.40A § 9 by amending SECTION 8.2.2. APPLICABILITY; or take any action related thereto.

(Inserted at the request of the Redevelopment Board)

ARTICLE 29

ZONING BYLAW AMENDMENT/ APARTMENT CONVERSION

To see if the Town will vote to amend the Zoning Bylaw to include a definition of apartment conversion by amending SECTION 2 DEFINITIONS; or take any action related thereto.

(Inserted at the request of the Redevelopment Board)

ARTICLE 30

ZONING BYLAW AMENDMENT/ GROSS FLOOR AREA

To see if the Town will vote to amend the Zoning Bylaw to clarify how landscaped and usable open space is calculated relative to gross floor area by amending SECTION 5.3.22. GROSS FLOOR AREA to add subsection C; or take any action related thereto.

(Inserted at the request of the Redevelopment Board)

ARTICLE 31

ZONING BYLAW AMENDMENT/ PROHIBITED USES

To see if the Town will vote to amend the Zoning Bylaw to indicate that uses without a "Y" or "SP" in the Tables of Uses are prohibited by amending SECTION 5.2.2. PROHIBITED USES to add subsection C; or take any action related thereto.

(Inserted at the request of the Redevelopment Board)

ARTICLE 32

ZONING BYLAW AMENDMENT/ OTHER DISTRICTS DIMENSIONAL AND DENSITY REGULATIONS

To see if the Town will vote to amend the Zoning Bylaw to include the legend for tables by amending SECTION 5.6.2. DIMENSIONAL AND DENSITY REGULATIONS; or take any action related thereto.

(Inserted at the request of the Redevelopment Board)

ARTICLE 33

ZONING BYLAW AMENDMENT/ ADMINISTRATIVE AMENDMENTS

To see if the Town will vote to amend the Zoning Bylaw to make the following administrative corrections;

1. Correcting references to Board of Selectmen in subparagraph B of SECTION 3.1.4. PENALTY and in Section 3.2.1. ESTABLISHMENT;
2. Removing gendered terms in subparagraph A of SECTION 3.2.3. RULES AND REGULATIONS and subparagraph D of SECTION 6.2.7. NONCONFORMING SIGNS;
3. Correcting reference to August, 1975 in subparagraphs C and D in SECTION 5.4.2. DIMENSIONAL AND DENSITY REQUIREMENTS;

4. Correcting reference to Section 7 in SECTION 3.3.4.A SPECIAL PERMIT CONDITIONS; and
5. Correcting reference to seven feet three inches in subsection A(1) in SECTION 5.3.22. APPLICABILITY;
or take any action related thereto.
(Inserted at the request of the Redevelopment Board)

4. Board members will review MOU and authorize Director to proceed with tenancy

9:55 p.m. 23 Maple Street - Memorandum of Understanding between Town of Arlington (Department of Public Works and Department of Inspectional Services) and Arlington Redevelopment Board

5. Open Forum

10:10 p.m. Except in unusual circumstances, any matter presented for consideration of the Board shall neither be acted upon, nor a decision made the night of the presentation. There is a three minute time limit to present a concern or request.

6. Adjourn

10:30 p.m. Estimated Time for Adjournment

7. Correspondence received:

D. Seltzer 2-25-21 with attachment - Novus Agenda does not support the video file that was attached.



Town of Arlington, Massachusetts

Public Hearings

Summary:

7:00 p.m.

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ATTACHMENTS:

Type	File Name	Description
□ Reference Material	EDR_Public_Hearing_Memo_Docket_3647_10_Sunnyside_Final.pdf	EDR Public Hearing Memo Docket #3647 10 Sunnyside Final
□ Reference Material	Updated_Plan_Set_10_Sunnyside_Received_2-25-21.pdf	Updated Plan Set 10 Sunnyside received 2-25-21
□ Reference Material	Stormwater_Report.pdf	Stormwater Report
□ Reference Material	Combined_Application_Materials.pdf	Combined Application Materials

Reference Material	Correspondence_from_R._Annese_regarding_400-402_Mass_Ave_022421.pdf	Correspondence from R. Annese regarding 400-402 Mass Ave 02-24-21
Reference Material	400-402_Mas_Ave_Dimensional_and_Open_Space_2021_02_24.pdf	400-402 Mass Ave Dimensional and Open Space 02-24-2021
Reference Material	2021-02-23_400_Mass_Ave_Arlington_Apartments_REV_PLANS.pdf	2021-02-23 400 Mass Ave Arlington Apartments - Revised Plans
Reference Material	EDR_Public_Hearing_Memo_Docket_3638_400-402_Mass_Ave_11-19-20.pdf	EDR Memo Docket #3638 400-402 Mass Ave 11-19-20
Reference Material	400_Mass_Ave_signs_.pdf	400 Mass Ave signs
Reference Material	2021-02-17_400_Mass_Ave_Arlington_Apartments_zREV_PLANS_-_Superseded.pdf	2-17-21 400 Mass Ave Arlington Apartments Rev. Plans - Superseded
Reference Material	Jennifer_Raitt_supplement_submission_400-402_Mass_2020_12_16.pdf	Jennifer Raitt Supplement Submission 400-402 Mass Ave 12-16-2020
Reference Material	400_MASS_AVE_-_Sustainable_goals_2020_12_15.pdf	400 Mass Ave Sustainable Goals 12-15-20
Reference Material	Mass_Ave_Arlington_Apartments_2020_12_15_-_Superseded.pdf	Mass Ave Arlington Apartments 12-15-20 - Superseded
Reference Material	400_Mass_Ave_-_LEED_v4_for_BD+C_-_2020_12_15.pdf	400 Mass Ave - LEED 12-15-20
Reference Material	Land_and_Sea_Real_Estate_2020_12_15.pdf	Land and Sea Real Estate 12-15-20
Reference Material	New_York_Times_2020_12_15.pdf	New York Times 12-15-20
Reference Material	Application_Materials_Submitted_11-5-20_-_Superseded.pdf	Application Materials Submitted 11-5-20 Superseded
Reference Material	Application_Materials_Submitted_10-15-20_-_Superseded.pdf	Application Materials Submitted 10-15-20 Superseded
Reference Material	400-402_Mass_Ave_ZBA_Decision_dated_6-23-20.pdf	400-402 Mass Ave ZBA Decision dated 06-23-20
Reference Material	Docket_#2306_400-402_Mass_Ave_Decision_date_4-9-1980.pdf	Docket #2306 40-402 Mass Ave Decision date 4-9-1980



Town of Arlington, Massachusetts
Department of Planning & Community Development
730 Massachusetts Avenue, Arlington, Massachusetts 02476

Public Hearing Memorandum

The purpose of this memorandum is to provide the Arlington Redevelopment Board and public with technical information and a planning analysis to assist with the regulatory decision-making process.

To: Arlington Redevelopment Board

From: Jennifer Raitt, Secretary Ex Officio

Subject: Environmental Design Review, 10 Sunnyside Avenue, Arlington, MA
Docket #3647

Date: February 25, 2021

I. Docket Summary

This is an application by MB Realty Group, LLC, 339 Massachusetts Avenue, Arlington, MA, to open Special Permit Docket #3647 in accordance with the provisions of MGL Chapter 40A § 11, and the Town of Arlington Zoning Bylaw Section 3.4, Environmental Design Review. The applicant proposes to construct a mixed-use building containing general office space and five residential condominiums at 10 Sunnyside Avenue, Arlington, MA in the B4 Vehicular Oriented Business District.

The mixed-use structure is intended to be used by Column Health. Management employees will occupy the office space and the residences are intended for employees as well. Column Health also operates health care space at 339 Massachusetts Avenue, but those services are not intended to move to 10 Sunnyside Avenue.

Materials submitted for consideration of this application:

- Application for EDR Special Permit;
- Existing Conditions Plan, prepared by Coneco, dated November 9, 2020, updated for the hearing on February 25, 2021;

- Site Plans for Column Health Offices & Residences, prepared by EBI Consulting, dated December 7, 2020, updated for the hearing on February 25, 2021;
- Architectural Site Plans, Gross Floor Area Plans, Floor Plans, Elevations, Perspectives, and Renderings, prepared by Khalsa Design, dated December 8, 2020, updated for the hearing on February 25, 2021;
- Supplemental Traffic Impact Study, prepared by Nitsch Engineering, dated December 22, 2020;
- Stormwater Management Report, prepared by EBI Consulting, dated November 17, 2020; and
- LEED Checklist.

II. Application of Special Permit Criteria (Arlington Zoning Bylaw, Section 3.3)

1. Section 3.3.3.A.

The use requested is listed as a Special Permit in the use regulations for the applicable district or is so designated elsewhere in this Bylaw.

A mixed-use building is allowed in the B4 Vehicular Oriented Business District. The Board can find this condition is met.

2. Section 3.3.3.B.

The requested use is essential or desirable to the public convenience or welfare.

The Master Plan promotes mixed-use as a means to revitalize business districts, by bringing customers and street life to commercial zones. The Zoning Bylaw in Section 5.5.1 notes that all vehicular oriented businesses in this zoning district are encouraged to convert property to other retail, service, office, or residential use, especially as part of mixed-use developments. The office space will be used by Column Health for management employees and the residential space is for Column Health employees as a live-work arrangement. The redevelopment of this former automotive repair site is desirable for the site. The Board can find this condition is met.

3. Section 3.3.3.C.

The requested use will not create undue traffic congestion or unduly impair pedestrian safety.

Due to the live-work arrangement for Column Health employees, and the limited management staff who will utilize the office space, the proposed project will not create undue traffic congestion. The redevelopment of the site includes the establishment of a more formal sidewalk with a single entry and exit to the site improving pedestrian safety along Sunnyside Avenue. The Board can find this condition is met.

4. **Section 3.3.3.D.**

The requested use will not overload any public water, drainage or sewer system or any other municipal system to such an extent that the requested use or any developed use in the immediate area or in any other area of the Town will be unduly subjected to hazards affecting health, safety, or the general welfare.

The proposed mixed-use structure will not overload the public water, drainage, or sewer system. The redevelopment of the site includes upgrades to manage stormwater onsite, particularly runoff from portions of the roof, driveway, and landscaped area, as well as the inclusion of permeable pavers. The Board can find this condition met.

5. **Section 3.3.3.E.**

Any special regulations for the use as may be provided in the Bylaw are fulfilled.

There are no special regulations for this particular use. The Board can find this condition met.

6. **Section 3.3.3.F.**

The requested use will not impair the integrity or character of the district or adjoining districts, nor be detrimental to the health or welfare.

The redevelopment of this former automotive-oriented site will not impair the integrity or character of the district or adjoining districts, nor be detrimental to the health and welfare. Mixed-use structures are encouraged to replace former automotive uses in this district. The Board can find this condition is met.

7. **Section 3.3.3.G.**

The requested use will not, by its addition to a neighborhood, cause an excess of the use that could be detrimental to the character of said neighborhood.

The use will not be in excess or detrimental to the character of the neighborhood. The Board can find this condition is met.

III. **Environmental Design Review Standards (Arlington Zoning Bylaw, Section 3.4)**

1. **EDR-1 Preservation of Landscape**

The landscape shall be preserved in its natural state, insofar as practicable, by minimizing tree and soil removal, and any grade changes shall be in keeping with the general appearance of neighboring developed areas.

The existing site condition is developed with extensive asphalt pavement and a garage structure. There is some landscaping inside the security fencing that has been previously maintained, and the remainder of the vegetation on site has never been maintained. As part of the redevelopment of the site, new landscaping will be installed

along the perimeter of the site and in other areas internal to the site. The Board can find this condition met.

2. EDR-2 Relation of the Building to the Environment

Proposed development shall be related harmoniously to the terrain and to the use, scale, and architecture of the existing buildings in the vicinity that have functional or visible relationship to the proposed buildings. The Arlington Redevelopment Board may require a modification in massing so as to reduce the effect of shadows on the abutting property in an R0, R1 or R2 district or on public open space.

The architectural style of the building is contemporary. Incorporating the façade of the existing garage on the site creates some visual interest and speaks to the site history. The larger portion of the structure meets many of the recommendations of the Design Standards of the Town of Arlington. In particular, there is ground floor transparency and variation in the building facades. More description about and samples of the building materials may be necessary.

The building is in compliance with the floor area ratio allowed for the use in this zoning district. (Please note this update on the revised plans submitted February 25, 2021.)

The taller portion of the structure is a full four stories, and the fifth story is more than just a headhouse for the elevator. There are spaces used for human occupation on the fifth floor, which are not comparable to the maximum height exceptions included in Section 5.3.20. The Density and Dimensional Table in Section 5.5.2.A. shows two different maximum height and stories for this use, with a circular reference to Section 5.3.19, otherwise known as the reduced height buffer area. The application materials include an analysis of the reduced height buffer area, and a portion of the building does fall into the buffer area. As such, the applicant has requested the Redevelopment Board to make a determination that the building will not adversely affect the nearby R1 and R2 zoning districts due to the existing use or topographic conditions. The application materials indicate that this determination could be made due to the context of the neighborhood and the immediately adjacent business zoning districts. Renderings are provided.

Further, the upper story building stepback is not provided per Section 5.3.17; however, there is still variation in the building façade that the Redevelopment Board may consider this consistent with the intent of the Bylaw.

3. EDR-3 Open Space

All open space (landscaped and usable) shall be so designed as to add to the visual amenities of the vicinity by maximizing its visibility for persons passing by the site or overlooking it from nearby properties. The location and configuration of usable open space shall be so designed as to encourage social interaction, maximize its utility and facilitate maintenance.

The usable open space requirement is approximately 3,237 square feet. Approximately 1,780 square feet of open space is provided at grade. It should be noted that the area of usable open space meets the requirement to be no less than 25 feet in any horizontal direction. There is additional open space provided on roofs and balconies, including 645 square feet in the green house and 5,784 square feet is located on the residential balconies and roof decks, a portion of which can be counted toward the usable open space requirement per Section 5.3.18.

The ARB may want to see more detail about plantings and landscaping at grade and in other areas.

4. EDR-4 Circulation

With respect to vehicular and pedestrian and bicycle circulation, including entrances, ramps, walkways, drives, and parking, special attention shall be given to location and number of access points to the public streets (especially in relation to existing traffic controls and mass transit facilities), width of interior drives and access points, general interior circulation, separation of pedestrian and vehicular traffic, access to community facilities, and arrangement of vehicle parking and bicycle parking areas, including bicycle parking spaces required by Section 6.1.12 that are safe and convenient and, insofar as practicable, do not detract from the use and enjoyment of proposed buildings and structures and the neighboring properties.

The proposal includes 21 parking spaces. Section 6.1 requires 20 parking spaces. 18 of the proposed parking spaces will be located in a garage and the applicant proposes using car stackers to maximize the use of the garage space. An attendant will operate the car stacker. The remaining three parking spaces will be tandem along the rear of the residential portion of the building. No setback for these parking spaces or driveway space is required as the adjacent use is a business use, although there is a retaining wall between the rear of the property and the adjacent property and some landscaping.

All of the parking spaces are compliant with the dimensions required by Section 6.1.11.A. However, the drive aisle between the two portions of the building and the drive aisle in the parking garage, both of which support two-way traffic are only 20 feet wide, whereas the requirement is 24 feet.

A Traffic Impact Study was provided with the application materials. Because of the live-work arrangement for this Column Health building, the number of vehicular trips is projected to be very low. As such, the study notes that the redevelopment of this site would not negatively affect the intersections in the immediate area.

Bicycle parking is provided throughout the property. In total, 13 short-term bicycle parking spaces and 11 long-term bicycle parking spaces are provided. The updated plan set received February 25th includes a specification for an inverted U style bike rack. This

style bike rack is likely acceptable for the outdoor racks, but may be refined for the indoor bike racks.

5. EDR-5 Surface Water Drainage

Special attention shall be given to proper site surface drainage so that removal of surface waters will not adversely affect neighboring properties or the public storm drainage system. Available Best Management Practices for the site should be employed, and include site planning to minimize impervious surface and reduce clearing and re-grading. Best Management Practices may include erosion control and stormwater treatment by means of swales, filters, plantings, roof gardens, native vegetation, and leaching catch basins. Stormwater should be treated at least minimally on the development site; that which cannot be handled on site shall be removed from all roofs, canopies, paved and pooling areas and carried away in an underground drainage system. Surface water in all paved areas shall be collected in intervals so that it will not obstruct the flow of vehicular or pedestrian traffic and will not create puddles in the paved areas. In accordance with Section 3.3.4., the Board may require from any Applicant, after consultation with the Director of Public Works, security satisfactory to the Board to ensure the maintenance of all stormwater facilities such as catch basins, leaching catch basins, detention basins, swales, etc. within the site. The Board may use funds provided by such security to conduct maintenance that the Applicant fails to do. The Board may adjust in its sole discretion the amount and type of financial security such that it is satisfied that the amount is sufficient to provide for any future maintenance needs.

A Stormwater Report is included in the application materials. The current site conditions allow stormwater to leave the site untreated and flow into catch basins on Sunnyside Avenue. The proposed redevelopment stormwater plan will capture some stormwater onsite. Stormwater from the residential roof, a portion of the office roof, the driveway, and some landscaped areas will be collected by catch basins and directed to an underground infiltration trench. Permeable pavers will capture additional runoff. The remaining portion of the office roof and other portions of the site that are impracticable to direct to the infiltration trench will continue to leave the site and enter the municipal system in Sunnyside Avenue.

A Long Term Pollution Prevention Plan and an Operations and Maintenance Plan are included with the Stormwater Report.

The Board can find this condition is met.

6. EDR-6 Utilities Service

Electric, telephone, cable TV, and other such lines of equipment shall be underground. The proposed method of sanitary sewage disposal and solid waste disposal from all buildings shall be indicated.

All new utility service will be underground. The Board can find this condition is met.

7. EDR-7 Advertising Features

The size, location, design, color, texture, lighting and materials of all permanent signs and outdoor advertising structures or features shall not detract from the use and enjoyment of proposed buildings and structures and the surrounding properties.

The application materials indicate that there will be new Column Health signage on the building and a street number above the residential entrance. In the updated plan set received February 25th, details on the Column Health signage is provided. The sign is 42 square feet and will have no internal illumination. The maximum size for a wall sign at this location is 40 square feet. There may be the opportunity to slightly shrink the signage to be compliant with Section 6.2. The Board may want to request additional information about the materials proposed for the sign.

8. EDR-8 Special Features

Exposed storage areas, exposed machinery installations, service areas, truck loading areas, utility buildings and structures, and similar accessory areas and structures shall be subject to such setbacks, screen plantings or other screening methods as shall reasonably be required to prevent their being incongruous with the existing or contemplated environment and the surrounding properties.

There are no such special features proposed for the site. The Board can find this condition is met.

9. EDR-9 Safety

With respect to personal safety, all open and enclosed spaces shall be designed to facilitate building evacuation and maximize accessibility by fire, police and other emergency personnel and equipment. Insofar as practicable, all exterior spaces and interior public and semi-public spaces shall be so designed to minimize the fear and probability of personal harm or injury by increasing the potential surveillance by neighboring residents and passersby of any accident or attempted criminal act.

As noted in the application materials, the buildings have been designed to facilitate evacuation and accessibility. The Board can find this condition is met.

10. EDR-10 Heritage

With respect to Arlington's heritage, removal or disruption of historic, traditional or significant uses, structures or architectural elements shall be minimized insofar as practical whether these exist on the site or on adjacent properties.

The existing structure is not listed on the *Inventory of Historically or Architecturally Significant Properties in the Town of Arlington* nor is it under the jurisdiction of the Arlington Historical Commission. As such, the site contains no historic, traditional or significant uses, structures or architectural elements. The Board can find this condition is met.

11. EDR-11 Microclimate

With respect to the localized climatic characteristics of a given area, any development which proposes new structures, new hard surface, ground coverage or the installation of machinery which emits heat, vapor or fumes shall endeavor to minimize insofar as practicable, any adverse impacts on light, air and water resources or on noise and temperature levels of the immediate environment.

There are no proposed changes that will impact the microclimate. The Board can find this condition is met.

12. EDR-12 Sustainable Building and Site Design

Projects are encouraged to incorporate best practices related to sustainable sites, water efficiency, energy and atmosphere, materials and resources, and indoor environmental quality. Applicants must submit a current Green Building Council Leadership in Energy and Environmental Design (LEED) checklist, appropriate to the type of development, annotated with narrative description that indicates how the LEED performance objectives will be incorporated into the project.

The applicant provided a LEED Checklist and the project would meet Gold Certification standards indicating that LEED performance standards will clearly be incorporated into the project. Additionally, the application materials indicate that solar will be used, geo-thermal heating and cooling, energy efficient windows, sustainable interior products, and other elements to promote passive heating and cooling. A large greenhouse is also proposed. The Board can find this condition is met.

IV. Findings

The following findings are for the Board's consideration:

1. The ARB finds that the project is consistent with Environmental Design Review per Section 3.4 of the Zoning Bylaw.
2. The ARB finds that the five-story building will not adversely affect the adjacent R1 and R2 zoning districts per Section 5.3.19.

V. Conditions

The following conditions are for the Board's consideration:

General

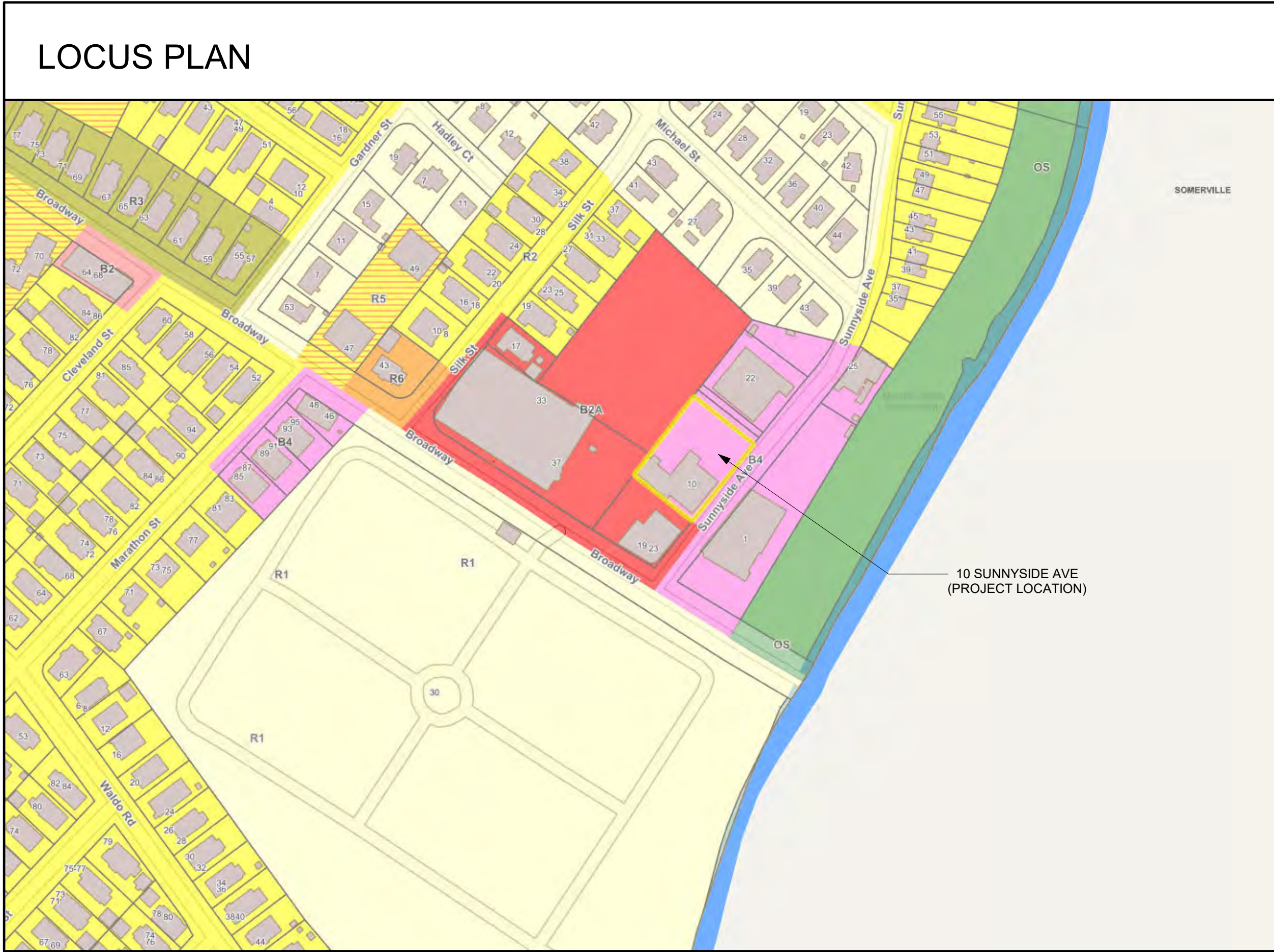
1. The final design, sign, exterior material, landscaping, and lighting plans shall be subject to the approval of the Arlington Redevelopment Board at the time when future operators are identified. Any substantial or material deviation during

construction from the approved plans and specifications is subject to the written approval of the Arlington Redevelopment Board

2. Any substantial or material deviation during construction from the approved plans and specifications is subject to the written approval of the Arlington Redevelopment Board.
3. The Board maintains continuing jurisdiction over this permit and may, after a duly advertised public hearing, attach other conditions or modify these conditions as it deems appropriate in order to protect the public interest and welfare.
4. Snow removal from all parts of the site, as well as from any abutting public sidewalks, shall be the responsibility of the owner and shall be accomplished in accordance with Town Bylaws.
5. Trash shall be picked up only on Monday through Friday between the hours of 7:00 am and 6:00 pm. All exterior trash and storage areas on the property, if any, shall be properly screened and maintained in accordance with the Town Bylaws.
6. Upon installation of landscaping materials and other site improvements, the owner shall remain responsible for such materials and improvement and shall replace and repair as necessary to remain in compliance with the approved site plan.
7. Upon the issuance of the building permit the Applicant shall file with the Inspectional Services Department and the Police Department the names and telephone numbers of contact personnel who may be reached 24 hours each day during the construction period.



SUBMISSION TO TOWN OF ARLINGTON
12-08-2020



PROJECT:
COLUMN HEALTH OFFICES
& RESIDENTS

PROJECT ADDRESS:
10 SUNNYSIDE AVENUE
ARLINGTON MASSACHUSETTS

ARCHITECT
KHALSA DESIGN INC.
17 IVALOO STREET, SUITE 400
SOMERVILLE, MA 02143
617-591-8682

CLIENT
COLUMN HEALTH LLC
339 MASSACHUSETTS AVE
ARLINGTON, MA 02474
617-539-6780

Architectural Drawing List		
Sheet Number	Sheet Name	Sheet Issue Date
A-000	Cover Sheet	1 2/08/20
SV-1	Existing Conditions Plan	1 2/07/20
C-1	Civil Title Sheet	1 2/07/20
C-2	Legend and General Notes	1 2/07/20
C-3	Layout & Materials Plan	1 2/07/20
C-4	Grading & Drainage Plan	1 2/07/20
C-5	Utilities Plan	1 2/07/20
C-6	Erosion Control & Sedimentation Plan	1 2/07/20
C-7	Site Details 1	1 2/07/20
C-8	Site Details 2	1 2/07/20
A-020	Architectural Site Plan	1 2/08/20
A-020.1	Site Locus & Zoning	0 1/21/21
A-021	Apartments Gross Area Plan	1 2/08/20
A-022	Offices Gross Area Plan	1 2/08/20
A-101	Residential - First Floor Plan	1 2/08/20
A-102	Residential - Second Floor Plan	1 2/08/20
A-103	Residential - Third Floor Plan	1 2/08/20
A-104	Residential - Fourth Floor Plan	1 2/08/20
A-105	Residential - Roof Deck Floor Plan	1 2/08/20
A-106	Commercial - Basement Floor Plan	1 2/08/20
A-109	Commercial - Green House / Cafe Floor Plan	1 2/08/20
A-110	Commercial - Roof Deck Floor Plan	1 2/08/20
A-300	Residential -Front Elevation	1 2/08/20
A-301	Residential - Rear Elevation	1 2/08/20
A-302	Residential - Left Side Elevation	1 2/08/20
A-303	Residential - Right Side Elevation	1 2/08/20
A-304	Commercial - Front & Rear Elevations	1 2/08/20
A-305	Commercial - Left & Right Elevations	1 2/08/20
A-306	Perspectives #1	1 2/08/20
A-307	Perspectives #2	1 2/08/20
A-308	Realistic Rendering	1 2/08/20
A-309	Realistic Rendering	1 2/08/20
A-310	Realistic Perspectives	1 2/08/20

PROJECT NAME
10 SUNNYSIDE
AVE

PROJECT ADDRESS
10 Sunnyside Ave
Arlington MA

CLIENT

Column Health LLC

ARCHITECT



KHALSA

17 IVALOO STREET SUITE 400
SOMERVILLE, MA 02143
TELEPHONE: 617-591-8682 FAX:
617-591-2086

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Project number	19119
Date	12-08-20
Drawn by	MB
Checked by	WC
Scale	














REVISIONS		
No.	Description	Date

Cover Sheet

A-000
10 SUNNYSIDE AVE

UTILITY NOTE

THE LOCATION OF ALL UNDERGROUND UTILITIES SHOWN ON THIS PLAN ARE APPROXIMATE ONLY AND ARE BASED UPON A FIELD SURVEY AND A COMPILATION OF AVAILABLE PLANS OF RECORD FROM THE VARIOUS UTILITY COMPANIES. THE INFORMATION PROVIDED IS FOR THE USE OF THE CONTRACTOR. NEITHER WARRANTY NOR GUARANTEE OF THE INFORMATION IS PROVIDED. THE CONTRACTOR SHALL VERIFY THE LOCATIONS OF ALL UTILITIES BY CONTACTING THE RESPECTIVE UTILITY COMPANIES AND "DIG-SAFE" (1-888-344-7233) PRIOR TO CONSTRUCTION.

LEGEND	
 SBH	STONE BOUND DRILL HOLE
 GM	GAS METER
 GG	GAS GATE
 WG	WATER GATE
	UTILITY POLE
	SEWER MANHOLE
	DRAIN MANHOLE
	WATER MANHOLE
 MH	MANHOLE
	MONITORING WELL
 B-1	SOIL BORING
LS	LANDSCAPING
R/W	RETAINING WALL
BB	BITUMINOUS BERM
BT CONC.	BITUMINOUS CONCRETE
CONC.	CONCRETE
CPD	CONCRETE PAD
GC	GRANITE CURB
EOP	EDGE OF PAVEMENT
PVC	POLYVINYL CHLORIDE
PL	PLASTIC
R	RIM
I	INVERT
CLF	CHAIN LINK FENCE
 OHW	OVERHEAD WIRES
 OHW	PROPERTY LINE

PLAN REFERENCES
1. BOOK 3202, PAGE END
2. BOOK 2637, PAGE 301
3. PLAN NO. 1177 OF 1946
4. PLAN NO. 415 OF 1947
5. PLAN NO. 345 OF 1957
6. PLAN NO. 723 OF 1955

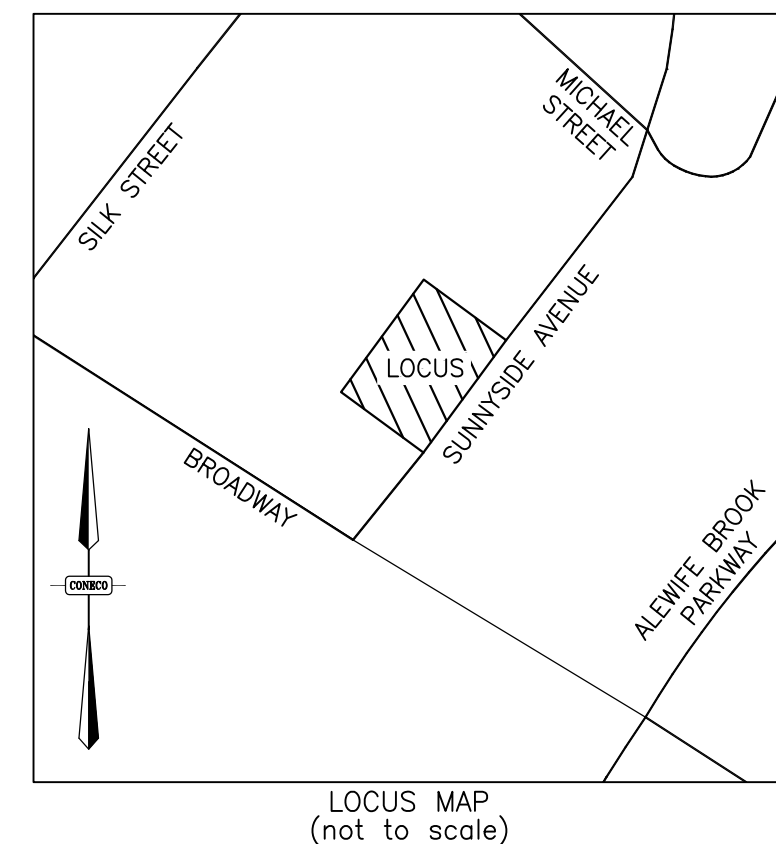
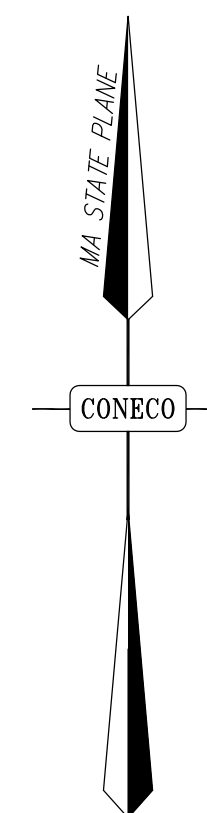
□ SBH	STONE BOUND DRILL HOLE
○ GAS	GAS METER
○ GG	GAS GATE
○ WG	WATER GATE
—○—	UTILITY POLE
⊙	SEWER MANHOLE
⊙	DRAIN MANHOLE
⊙	WATER MANHOLE
○ MH	MANHOLE
	MONITORING WELL
⊙ B-1	SOIL BORING
LS	LANDSCAPING
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BIT. CONC.	BITUMINOUS CONCRETE
CONC.	CONCRETE
CPG	CONCRETE PAD
CG	GRANITE CURB
EGP	EDGE OF PAVEMENT
PVC	POLYVINYL CHLORIDE
PL	PLASTIC
R	RIM
	INVERT
CLF ———— X	CHAIN LINK FENCE
— Ohw ———— Ohw ————	OVERHEAD WIRES
—————	PROPERTY LINE

Zoning District: "B4" Vehicular Oriented Business District

Minimum Lot Size: None
Minimum Frontage: 50 feet
Minimum Open Space: None
Maximum Floor Area Ratio: 1.5
Front Yard Setback: None
Rear Yard Setback: 13 Feet
Side Yard Setback: None
Maximum Building Height: 4 stories or 50 feet

1. VERTICAL DATUM: NAVD 88.
2. LOCUS PROPERTY IS IN ZONE X AS SHOWN ON FLOOD INSURANCE RATE MAP NUMBER 25017C0417E DATED JUNE 4, 2010.

I CERTIFY THAT THIS SURVEY AND PLAN CONFORMS TO THE ETHICAL, PROCEDURAL, AND TECHNICAL STANDARDS FOR THE PRACTICE OF LAND SURVEYING IN THE COMMONWEALTH OF MASSACHUSETTS.

[illegible]

LOCUS MAP
(not to scale)

OWNER OF RECORD:
MB REALTY GROUP LLC
PARCEL ID: 33-2-2.B
BOOK 73883, PAGE 259

10 SUNNYSIDE AVENUE
ARLINGTON, MA



C O N E C O
Engineers & Scientists

4 FIRST STREET, BRIDGEWATER, MASSACHUSETTS 02324
PHONE 508-697-3191 OR 800-548-3355; FAX 508-697-5999
WEBSITE: www.coneco.com

EBI CONSULTING

JOB NO.

11157

A horizontal scale bar with alternating black and white segments. Above the bar, the numbers 20', 0, 20', and 40' are marked. Below the bar, the text "SCALE IN FEET" is centered.

NO.	DATE	DESCRIPTION	BY
REVISIONS			

Issued For: Local Approvals
Date Issued: December 7, 2020

SHEET NO.	SHEET TITLE	LATEST ISSUE
Sv-1	Existing Conditions Plan	6/12/2015



Source: MassGIS

Column Health LLC
339 Massachusetts Avenue
Arlington, MA 02474
Tel: 617-539-6780
www.coneco.com

Column Health LLC
339 Massachusetts Avenue
Arlington, MA 02474
Tel: 617-539-6780
www.coneco.com

Map #033.0, Lot #0002.B

 **EBI Consulting**
environmental | engineering | due diligence

2 Battermarket Park, Suite 100
Quincy, MA 02169
Tel: 781-273-2500
www.ebiconsulting.com

Khalsa
17 Ivaloo Strreet, Suite 400
Somerville, MA 02143
Tel: (617) 591-8682

Coneco Engineers & Scientists
4 First Street
Bridgewater, MA 02324
Tel: 508-697-3191
www.coneco.com



2 Batterymarch Park, Suite 100
Quincy, MA 02169
Tel: 781.273.2500
www.ebiconsulting.com



PREPARED FOR:

Column Health LLC
Colin Beatty
339 Massachusetts Ave
Arlington, MA 02474
Tel: (617) 539-6780
cbeatty@columnhealth.com

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SUBMITTALS

[illegible]

DATE:
December 7, 2020

PROJECT NUMBER:
1620000049

PROJECT TITLE:

Column Health
Offices & Residences

10 Sunnyside Avenue
Arlington, MA 02474
Middlesex County

ISSUED FOR:
Local Approvals
(Not Approved for Construction)

SHEET TITLE:

Title Sheet

SCALE:
N.T.S.

DESIGNED BY:
RLB

CHECKED BY:
MFC

SHEET NO:

C-1

1 OF 8



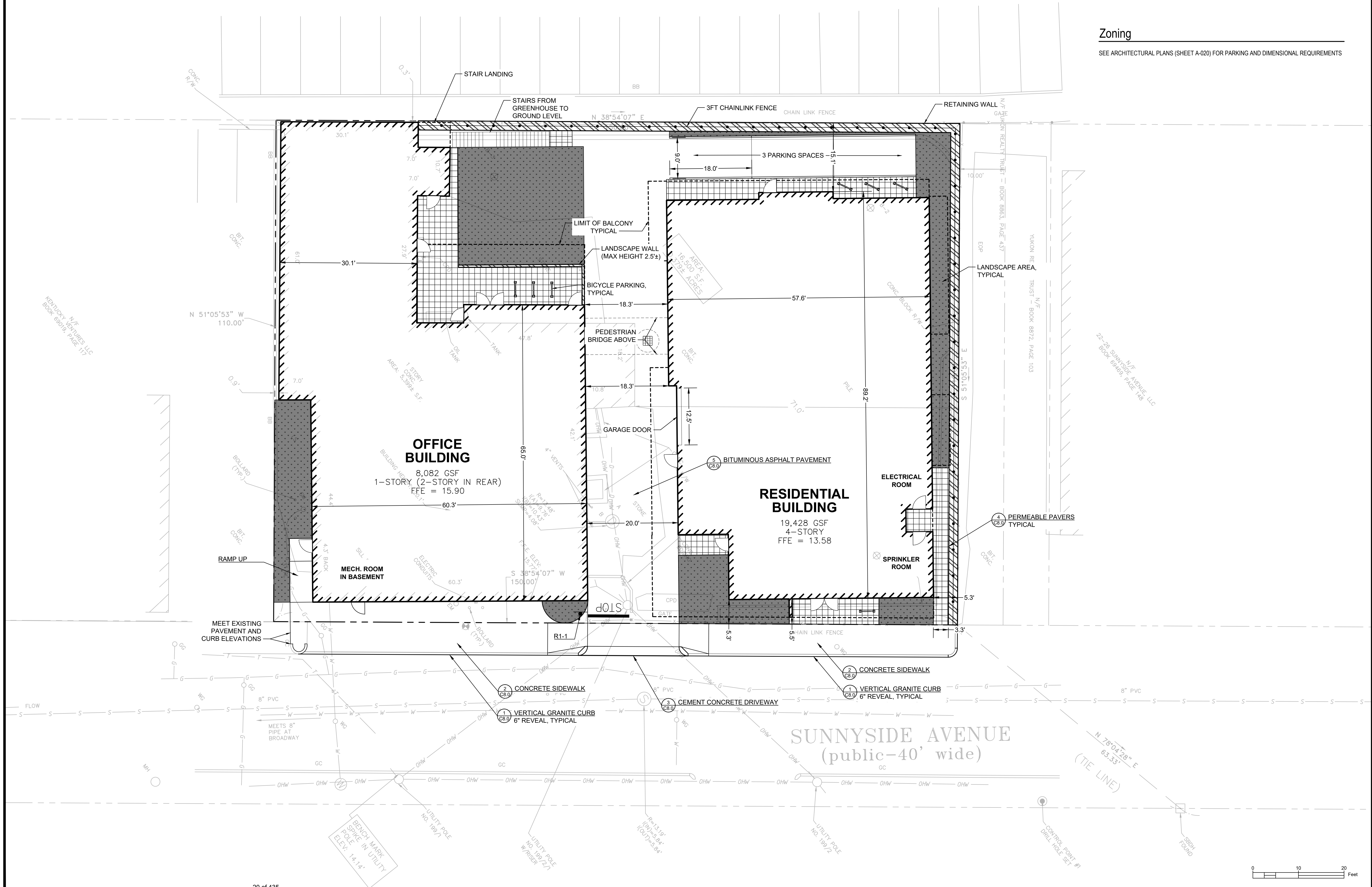
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[illegible]

PROJECT TITLE:
Column Health
Offices & Residences

ISSUED FOR:
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(Not Approved for Construction)

SCALE: 1" = 10'	SHEET NO: C-3 3 OF 8
DESIGNED BY: RLB	
CHECKED BY: MFC	





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DATE: December 7, 2020	PROJECT NUMBER: 1620000049
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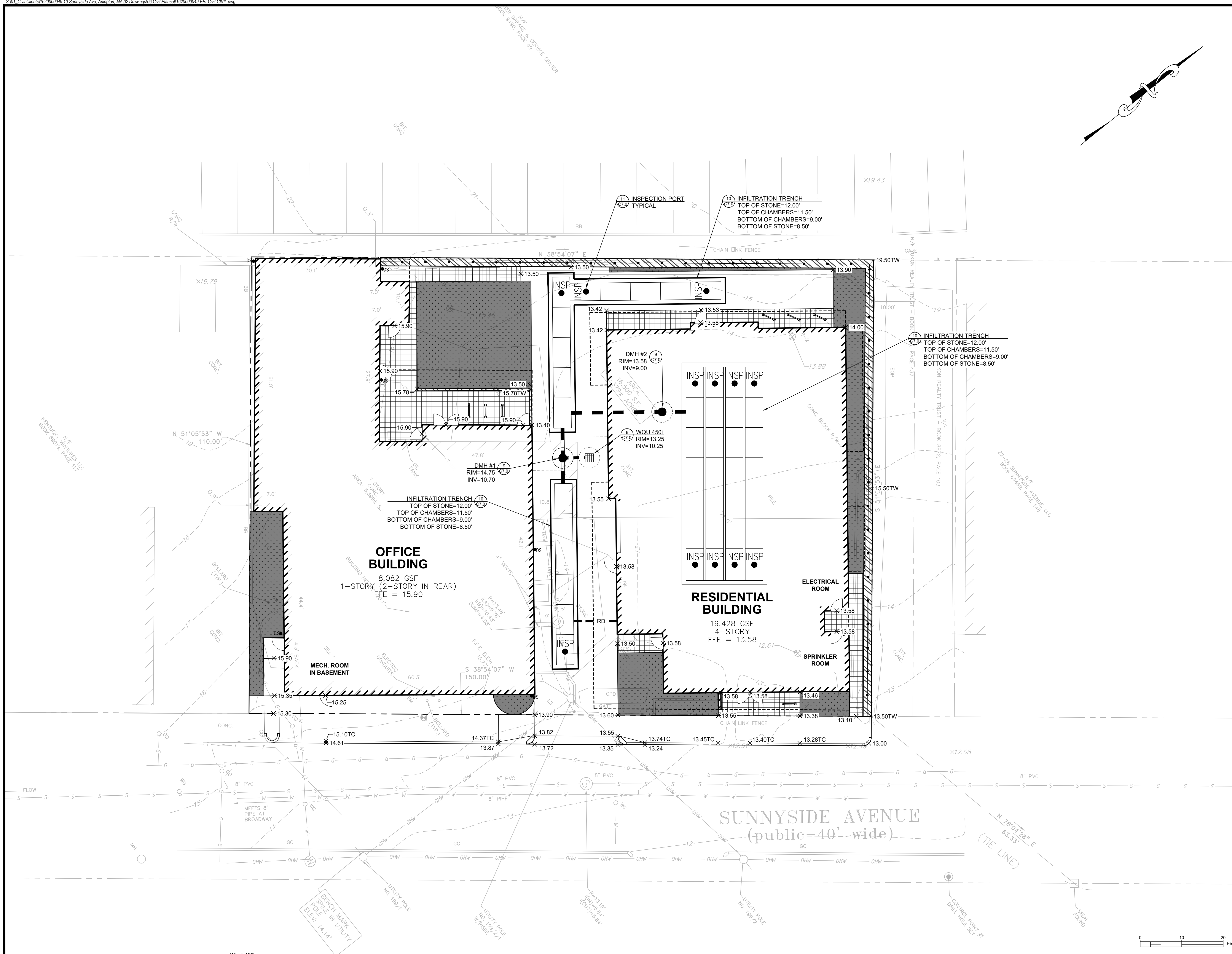
10 Sunnyside Avenue
Arlington, MA 02474
Middlesex County

SHEET TITLE:
**Grading, Drainage, &
Erosion Control Plan**

SHEET NO

C-4

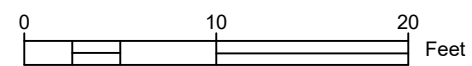
4 OF 8





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KENTUCKY VENTURES LLC
BOOK 69019, PAGE 117



DATE: December 7, 2020	PROJECT NUMBER: 1620000049
---------------------------	-------------------------------

10 Sunnyside Avenue
Arlington, MA 02474
Middlesex County

SHEET TITLE:

HEET NO:

C-5

5 OF 8



Column Health LLC

Colin Beatty
339 Massachusetts Ave
Arlington, MA 02474
Tel: (617) 539-6780
cbeatty@columnhealth.com

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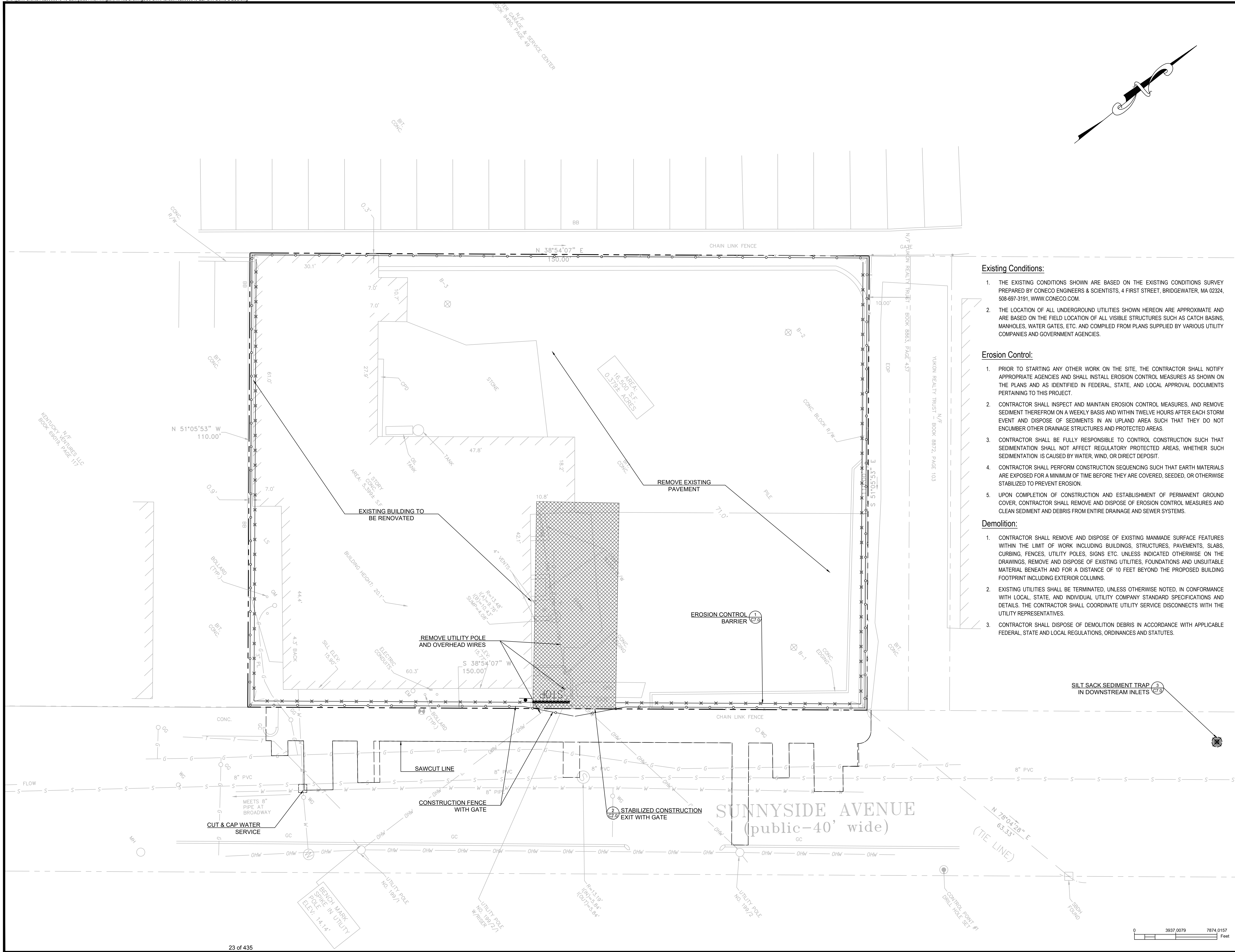
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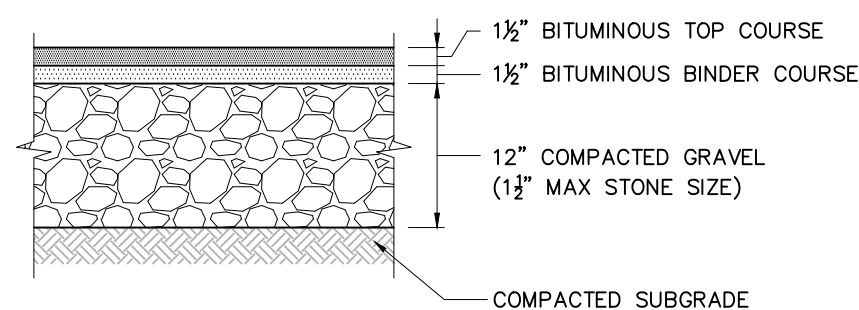
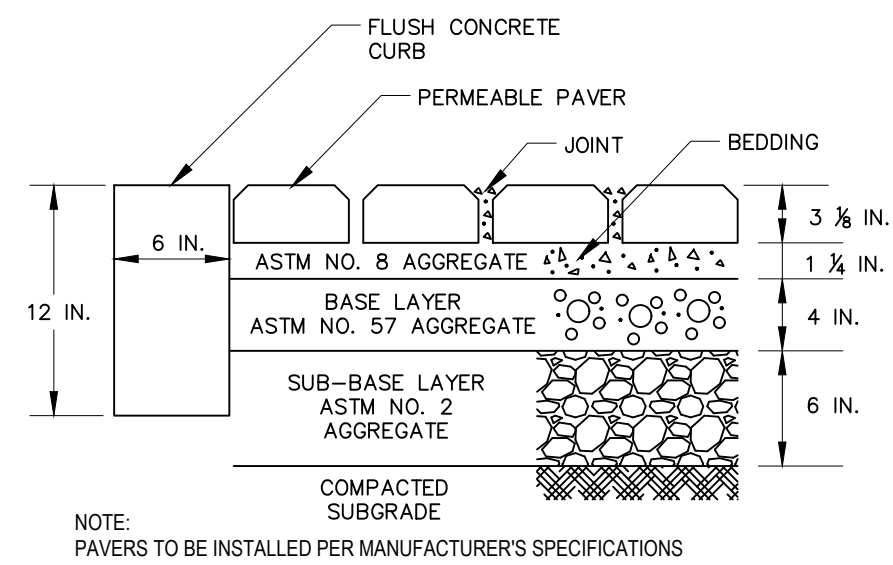
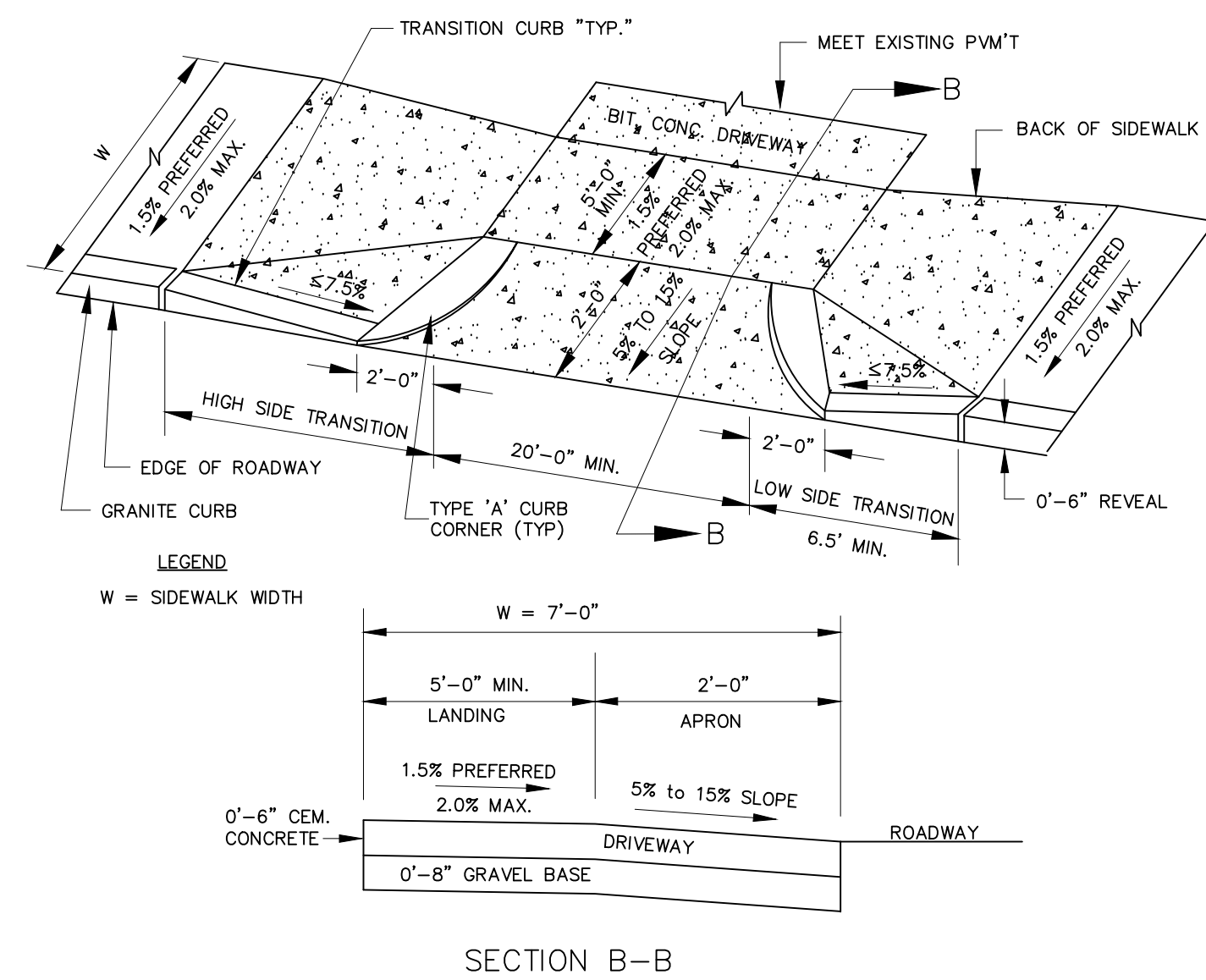
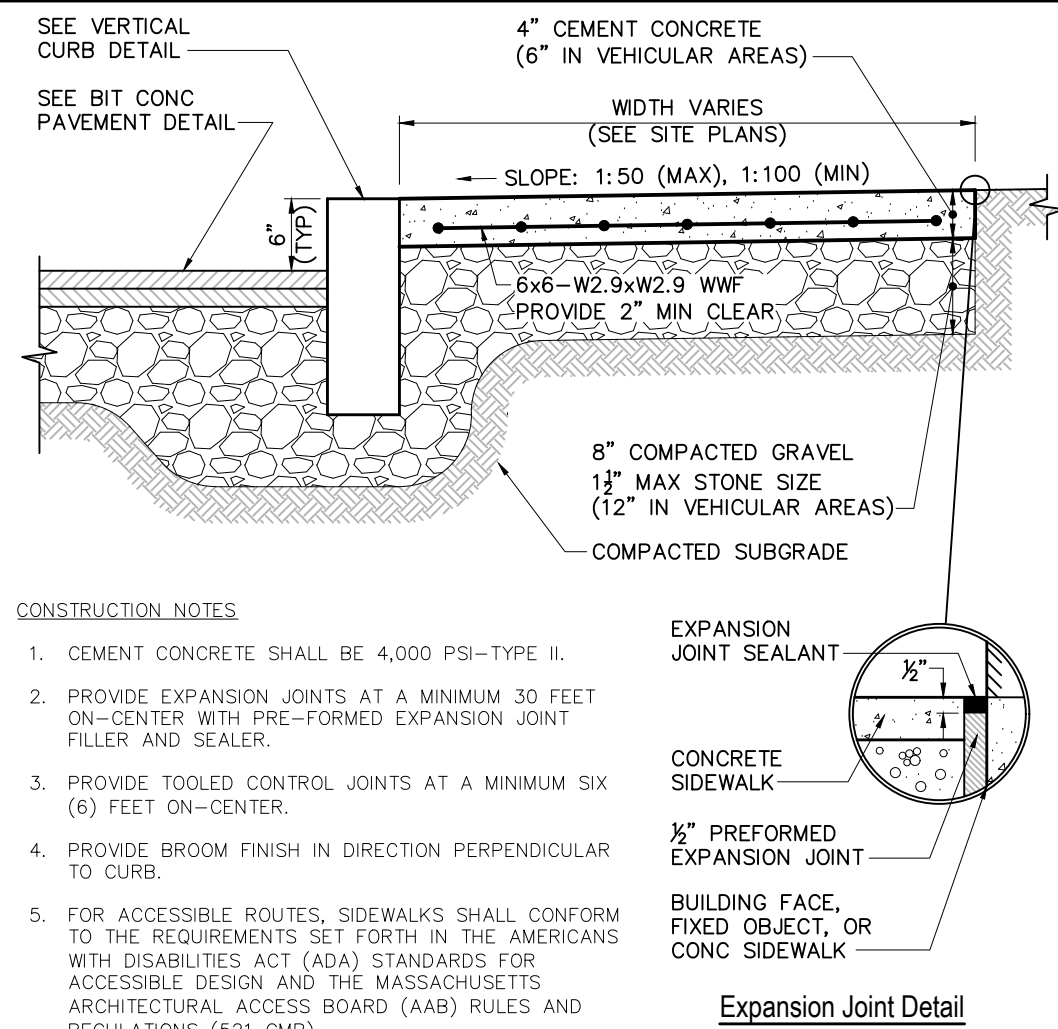
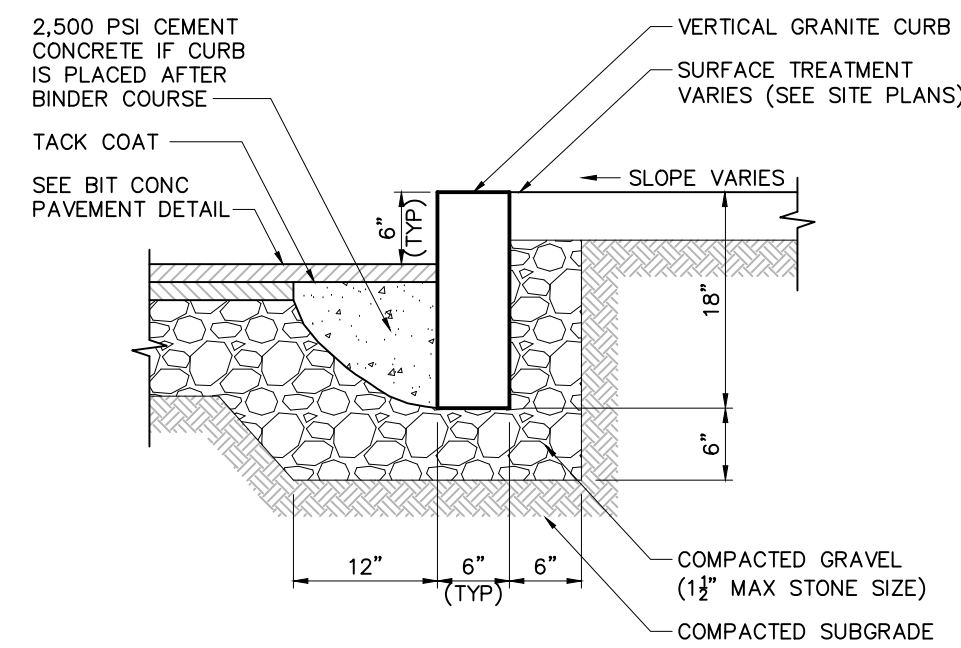
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1620000049

Column Health Offices & Residences

ISSUED FOR:
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SCALE: 1" = 10'	SHEET NO: <div style="font-size: 2em; font-weight: bold; text-align: center;">C-6</div> <div style="text-align: right;">3 OF 8</div>
DESIGNED BY: RLB	
CHECKED BY: MFC	





CONSTRUCTION NOTES

1. PAVEMENT SECTIONS ARE SUBJECT TO CHANGE AND WILL BE BASED ON THE RESULTS OF FURTHER GEOTECHNICAL INVESTIGATIONS.

BITUMINOUS CONCRETE PAVEMENT

SCALE: N.T.S.



2 Batterymarch Park, Suite 100
Quincy, MA 02169
Tel: 781.273.2500
www.ebiconsulting.com



PREPARED FOR:

Column Health LLC
Colin Beatty
339 Massachusetts Ave
Arlington, MA 02474
Tel: (617) 539-6780
cbeatty@columnhealth.com

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SUBMITTALS

[illegible]

DATE:
December 7, 2020

PROJECT NUMBER:
1620000049

PROJECT TITLE:

Column Health
Offices & Residences

10 Sunnyside Avenue
Arlington, MA 02474
Middlesex County

ISSUED FOR:
Local Approvals
(Not Approved for Construction)

SHEET TITLE:

Site Details 2

SCALE:
N.T.S.

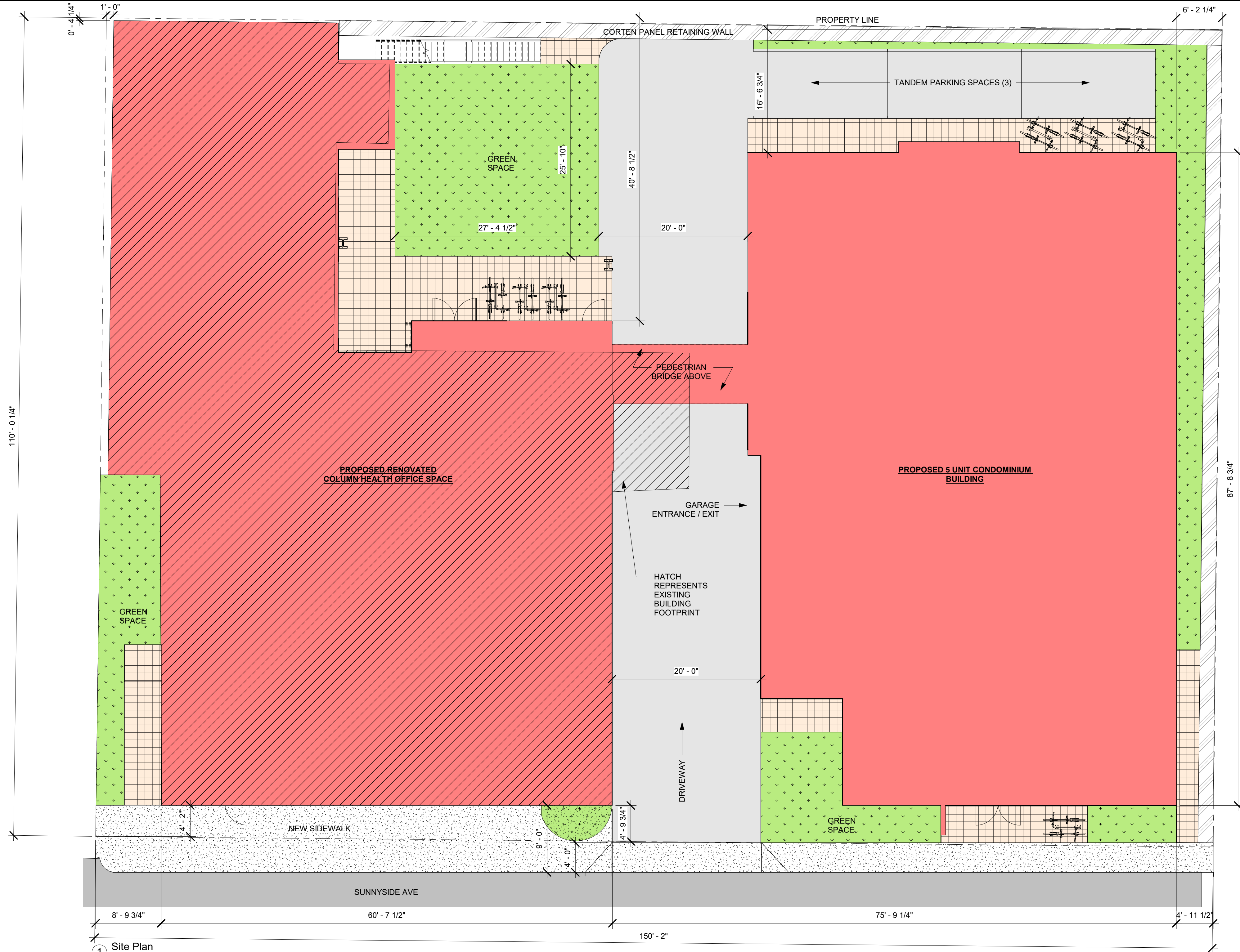
DESIGNED BY:
RLB

CHECKED BY:
MFC

SHEET NO:

C-8

8 OF 8



KEY	
	USEABLE OPEN SPACE
	PROPOSED BUILDING FOOTPRINT
	PAVED AREA
	PERMEABLE PAVERS
	PROPERTY LINE

ZONING DESIGNATION

B4: Vehicular Oriented Business District. The Vehicular Oriented Business District provides for establishments that are primarily oriented to automotive traffic, which means they require large amounts of land in proportion to building coverage. This district also consists of establishments devoted to the sale or servicing of motor vehicles, the sale of vehicular parts and accessories, and service stations. Arlington has an abundance of automotive and automotive accessory sales and service establishments. As these businesses gradually close, the Town has encouraged conversion of the property to other retail, service, office, or residential use, particularly as part of mixed-use development.

DISTRICT USE	MIN LOT AREA SF	MIN LOT AREA PER DU	MIN LOT FRONTAGE
B4			
MIXED USE <= 20,000 SF	N/A	N/A	50'-0" (150'-2" existing)

FRONT YARD (0'-0")	SIDE YARD (0'-0")	REAR YARD (10' +L/10)
VARIES (4'-2" - 5'-0")	1'-0" (L) / 4'-11 1/2" (R)	16'-6 3/4" (CONDO) / (+/- 4" EXISTING GARAGE)

OPEN SPACE N/A	USABLE OPEN SPACE
1,780 SF (10.8%)	1,780 SF @ GRADE / 645 SF GREENHOUSE
	5,784 SF USABLE OPEN SPACE ON RESIDENTIAL FLOORS 2-4

MAX HEIGHT: 60'-0"	MAX STORIES: 5 STORIES
49'-0" ROOF / 60'-0" TOP OF HEADHOUSE	4 STORIES + PRIVATE ROOF DECK LEVEL

MAXIMUM FLOOR AREA RATIO (FAR) 1.5 - 16,500 x 1.5 = 24,750 SF ADD 5% FAR FOR AVERAGE UNIT SIZE EXCEEDING 1,100 SF (ADDITIONAL 809 SF) ADD 2 SF FOR EVERY 1 SF OF OPEN SPACE IN EXCESS OF REQUIREMENT (ADDITIONAL 1,704 SF) TOTAL ALLOWED FAR = 27,263 SF
16,183 SF (CONDO BUILDING) + 8,082 SF (OFFICE BUILDING) = 24,265 SF

PARKING REQUIREMENTS: 2 SPACES PER 3 BED UNIT / 1.5 SPACES FOR 1&2 BED UNIT / 1 SPACE PER 500 SF OF OFFICE SPACE
3 RESIDENTIAL UNITS x 2 SPACES = 6 SPACES + 2 RESIDENTIAL UNITS x 1.5 SPACES = 3 SPACES (TOTAL OF 9 SPACES FOR RESIDENTIAL) 5,145 SF OF OFFICE/ 500 SF = 11 SPACES (20 TOTAL)
21 SPACES PROVIDED

BICYCLE PARKING: 1.5 PER DWELLING UNIT LONG TERM / .10 PER DWELLING UNIT SHORT TERM
8 BIKE SPACES LONG TERM + .5 SHORT TERM = 9 BIKE SPACES (14 SPACES PROVIDED)

BICYCLE PARKING: .30 SPACES PER 1,000 SF LONG TERM / .50 SPACES PER 1,000 SF
8.72 x .30 = 3 BIKE SPACES + 8.72 x .50 = 4 BIKE SPACES (7 TOTAL) (20 SPACES PROVIDED)

5.3.19. REDUCED HEIGHT BUFFER

When two different maximum height limits are specified for the same zoning district in any Table of Dimensional and Density Regulations in this Section 5, the lower limit shall apply to any lot or part of a lot located in a height buffer area unless it is determined as a specific finding of a special permit that the properties in the adjacent R0, R1, R2, or OS district would not be adversely affected due to existing use or topographic condition. A height buffer area is defined as a lot or part of a lot which is located at a lesser distance from any land, not within a public way, in an R0, R1, R2 or OS district than the following:

Land in R0, R1, R2, OS is located	Lower height shall apply
Between northwest and northeast	Within 200 feet
Easterly, between northeast and southeast, or westerly between northwest and southwest	Within 150 feet
Southerly, between southeast and southwest	Within 100 feet

(SEE SHEET A-020.1 FOR LOCUS OF PROPOSED DEVELOPMENT IN RELATION TO (R) PROPERTIES)

PROJECT NAME
10 SUNNYSIDE AVE

PROJECT ADDRESS
10 Sunnyside Ave
Arlington MA

CLIENT
Column Health LLC

ARCHITECT
DESIGN KHALSA

17 IVALOO STREET SUITE 400
SOMERVILLE, MA 02143
TELEPHONE: 617-591-8682 FAX:
617-591-2086

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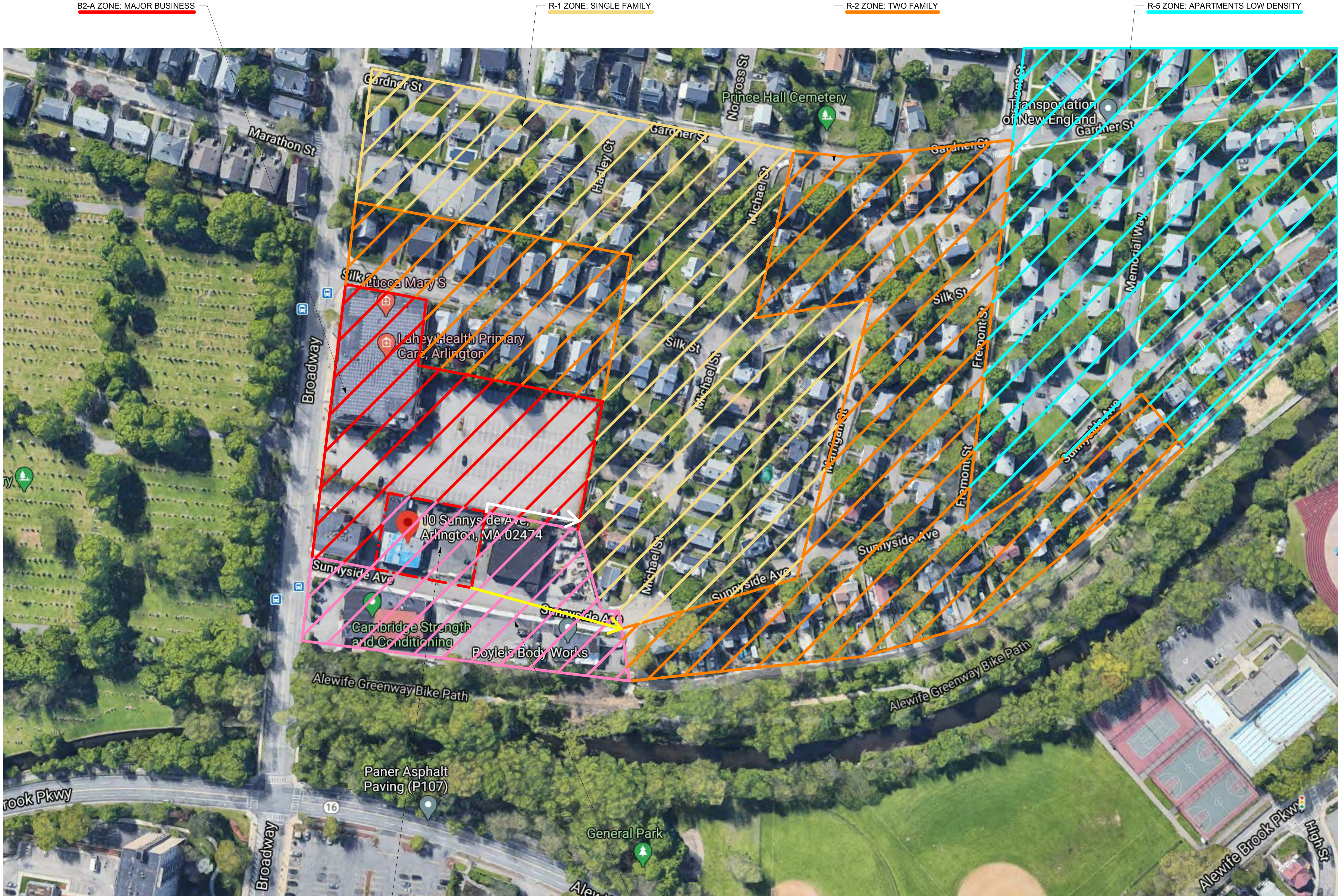
REGISTRATION		
Project number	19119	
Date	12-08-20	
Drawn by	MB	
Checked by	WC	
Scale	As indicated	

No.	Description	Date

Architectural Site
Plan

A-020

10 SUNNYSIDE AVE



1 LOCUS
1/4" = 1'-0"

PROJECT LOCATION
10 SUNNYSIDE AVENUE

B4 ZONE: VEHICULAR ORIENTED BUSINESS

10 SUNNYSIDE IS LOCATED APPROXIMATELY 165'-0" TO THE BEGINNING OF THE R-1 ZONE ON MICHAEL STREET LOOKING NORTH (DENOTED WITH WHITE LINE & ARROW)

10 SUNNYSIDE IS LOCATED APPROXIMATELY 252'-0" TO THE BEGINNING OF THE R-2 ZONE ON SUNNYSIDE AVENUE LOOKING NORTHEAST (DENOTED WITH YELLOW LINE & ARROW)

PROJECT NAME

10 SUNNYSIDE
AVE

PROJECT ADDRESS

10 Sunnyside Ave
Arlington MA

CLIENT

Column Health LLC

ARCHITECT



17 IVALOO STREET SUITE 400
SOMERVILLE, MA 02143
TELEPHONE: 617-591-8682 FAX:
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REGISTRATION



Project number	19119
Date	12-08-20
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Checked by	Checker
Scale	1/4" = 1'-0"

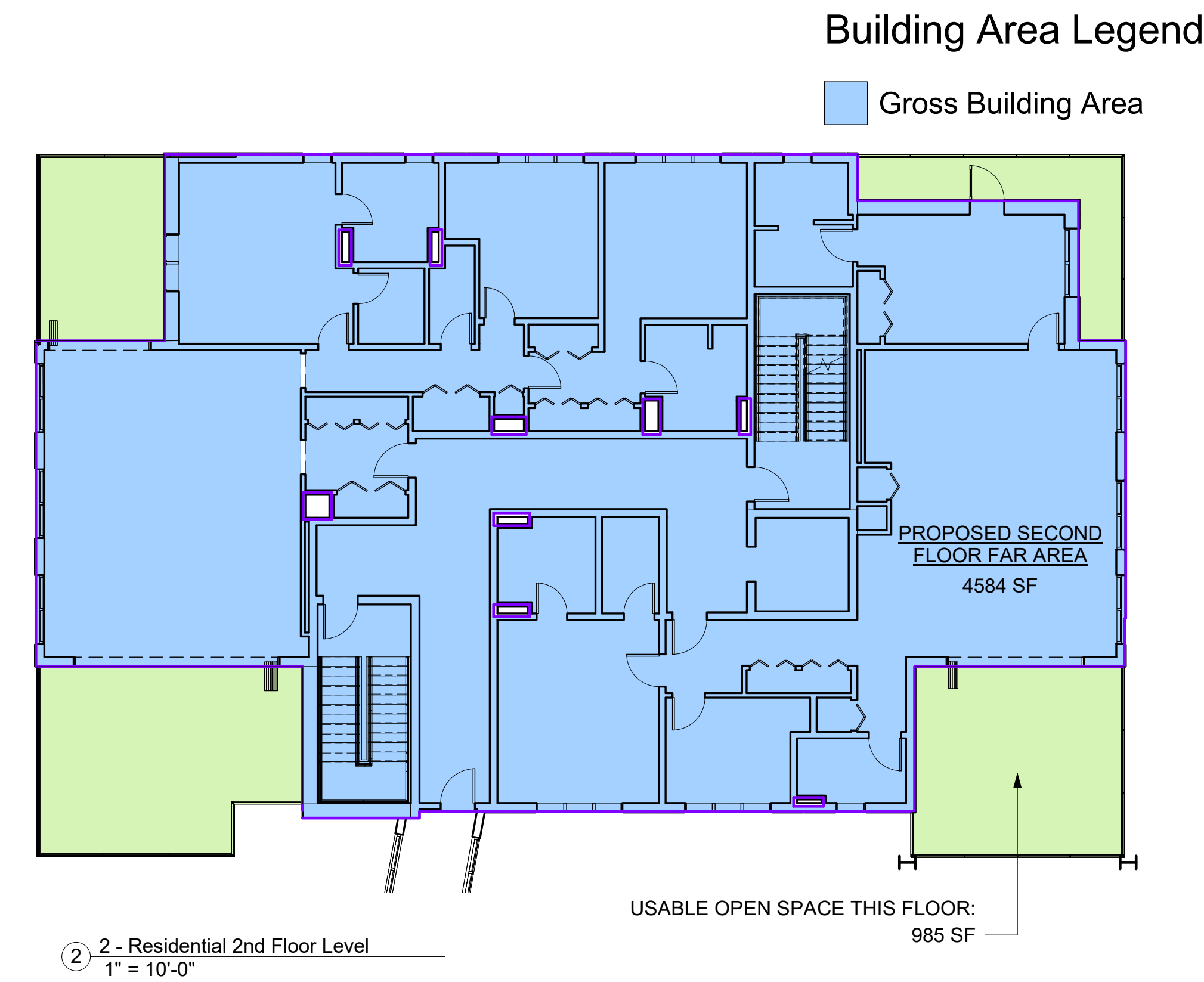
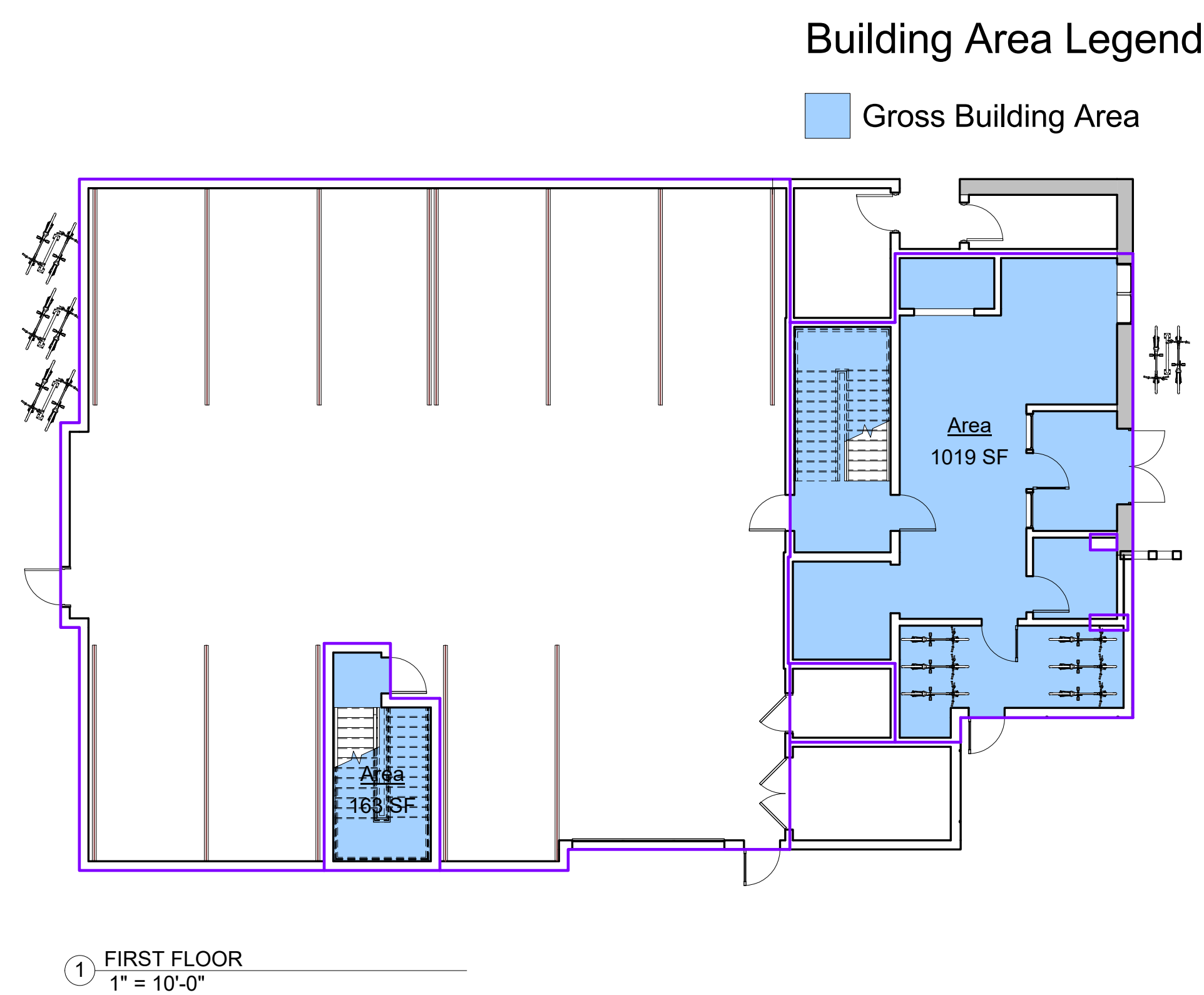
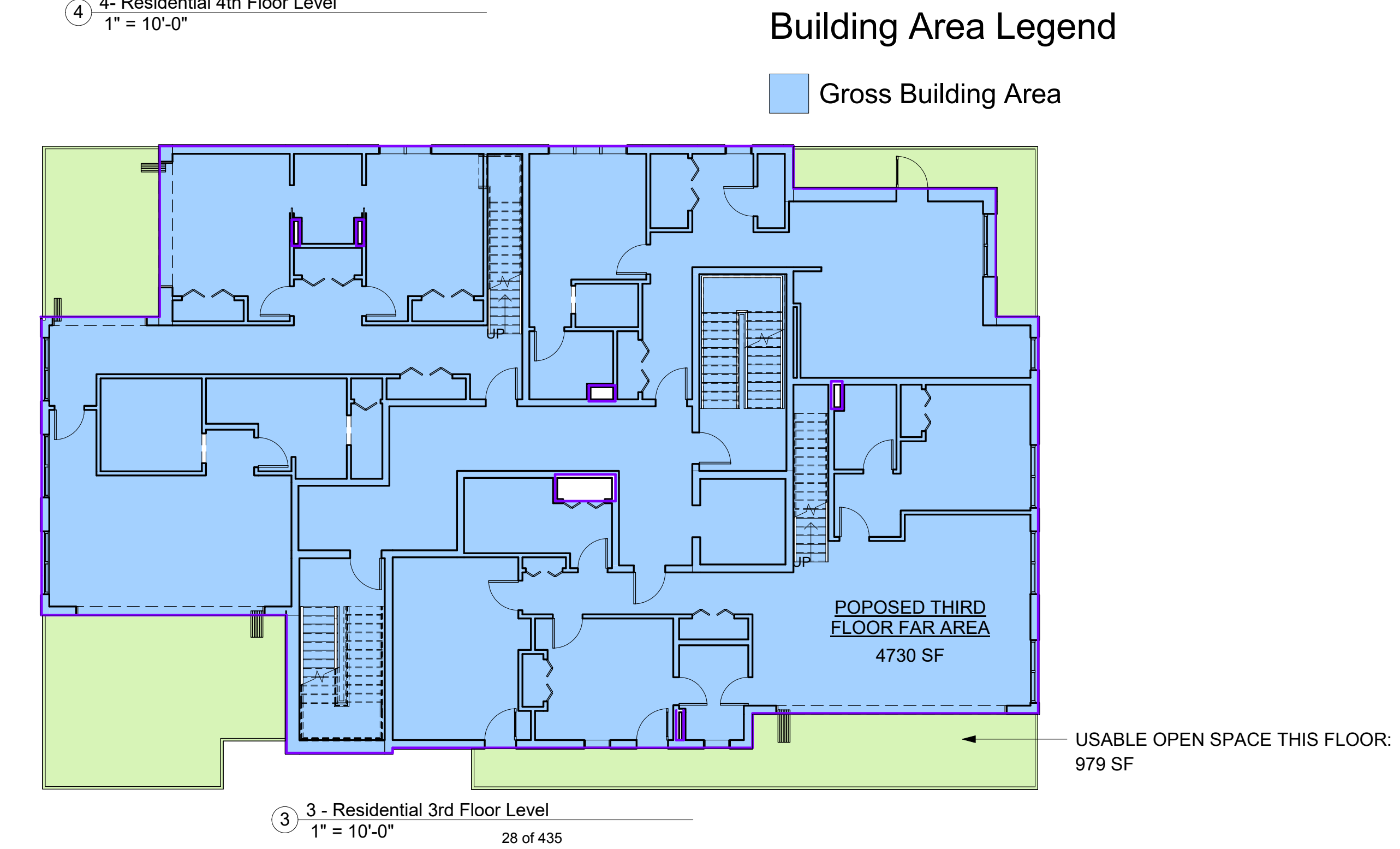
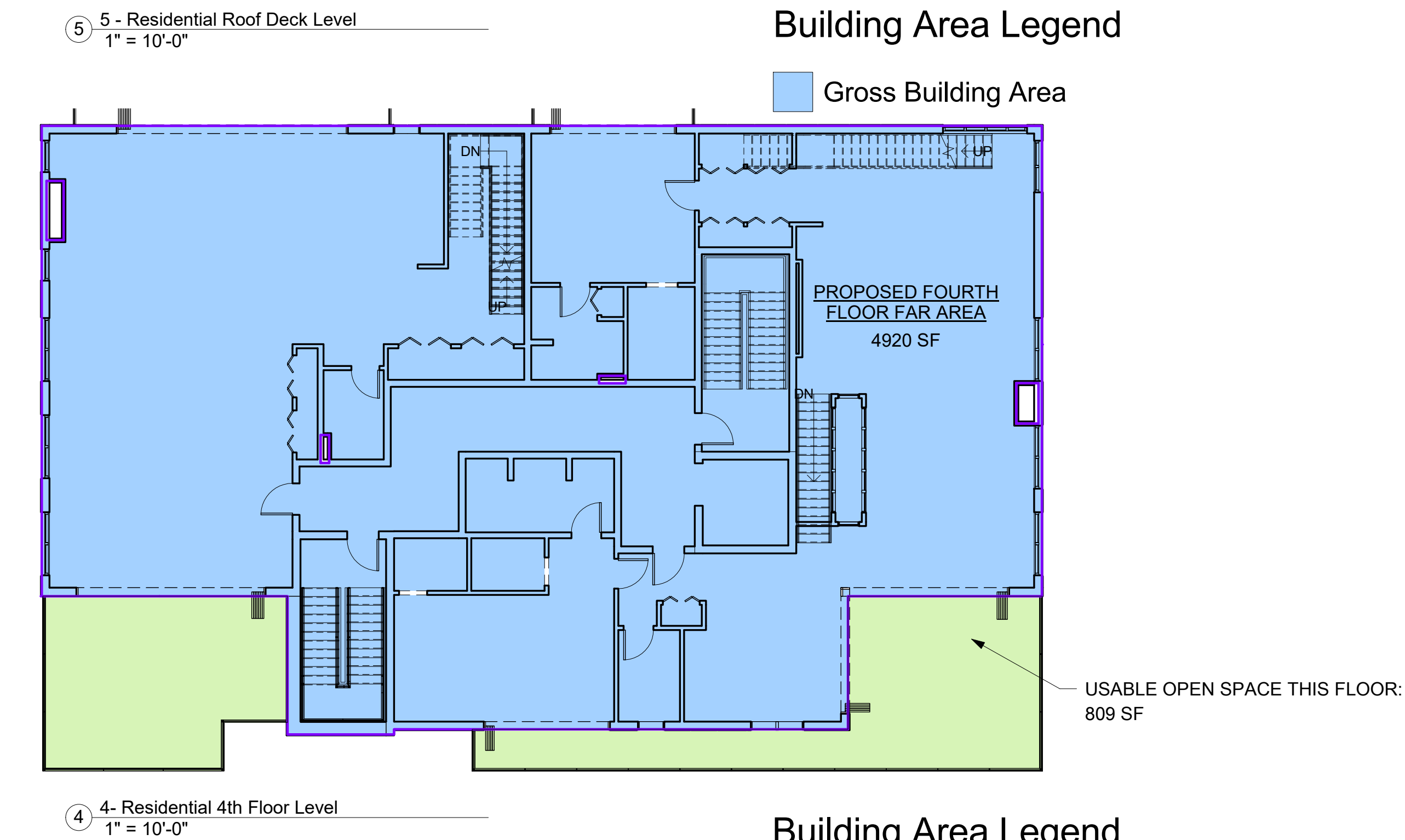
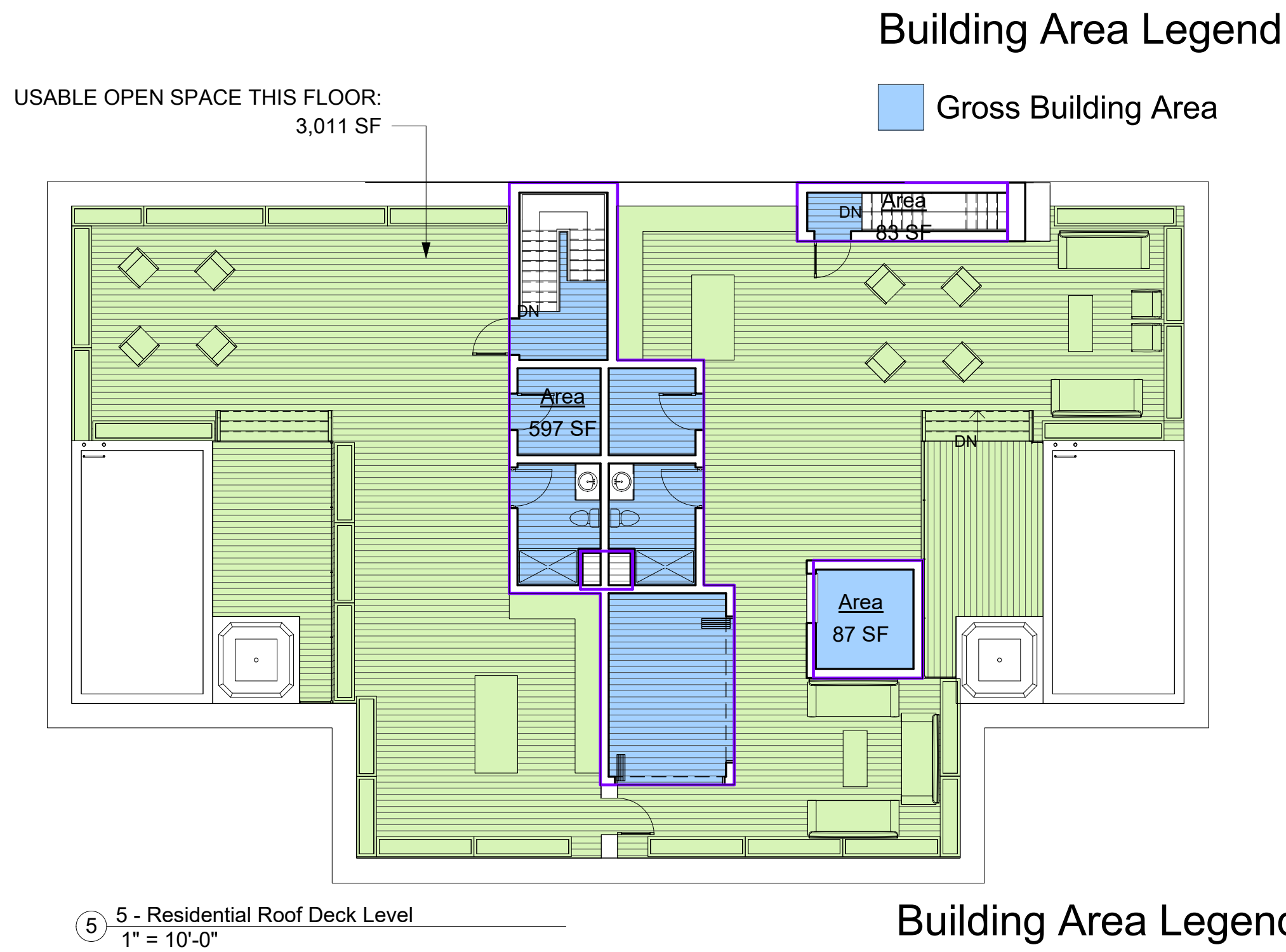
REVISIONS

No.	Description	Date

Site Locus &
Zoning

A-020.1

10 SUNNYSIDE AVE



TOTAL BUILDING GROSS SF = 16,183 SF

TOTAL USABLE OPEN SPACE = 5,784 SF

PROJECT NAME
10 SUNNYSIDE AVE

PROJECT ADDRESS
10 Sunnyside Ave
Arlington MA

CLIENT
Column Health LLC

ARCHITECT

DESIGN

KHALSA

17 IVALOO STREET SUITE 400
SOMERVILLE, MA 02143
TELEPHONE: 617-591-8682 FAX:
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Project number 19119
Date 12-08-20
Drawn by Author
Checked by Checker
Scale 1" = 10'-0"

REVISIONS		
No.	Description	Date

Apartment's Gross
Area Plan

A-021

10 SUNNYSIDE AVE

2/25/2021 10:09:36 AM



ARCHITECT



17 IVALOO STREET SUITE 400
SOMERVILLE, MA 02143
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REGISTRATION



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Checked by	WC
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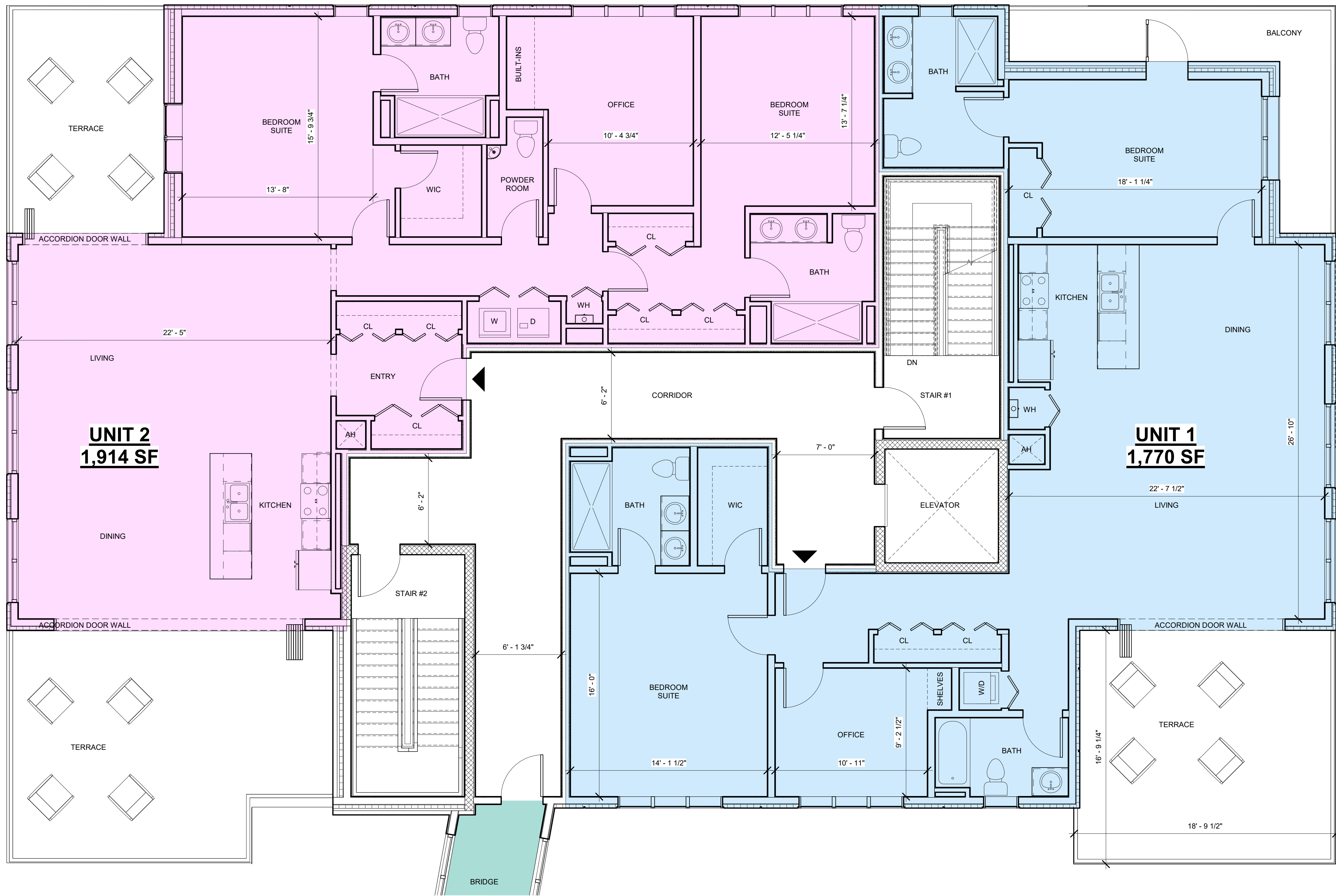
REVISIONS

[illegible]

Residential - First Floor Plan

A-101

10 SUNNYSIDE AV



① 2 - Residential 2nd Floor Level
1/4" = 1'-0"

PROJECT NAME

10 SUNNYSIDE
AVE

PROJECT ADDRESS

10 Sunnyside Ave
Arlington MA

CLIENT

Column Health LLC

ARCHITECT



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SOMERVILLE, MA 02143
TELEPHONE: 617-591-8682 FAX:
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Date	12-08-20
Drawn by	MB
Checked by	WC
Scale	1/4" = 1'-0"

REVISIONS

No.	Description	Date

Residential -
Second Floor Plan

A-102

10 SUNNYSIDE AVE

**10 SUNNYSIDE
AVE**

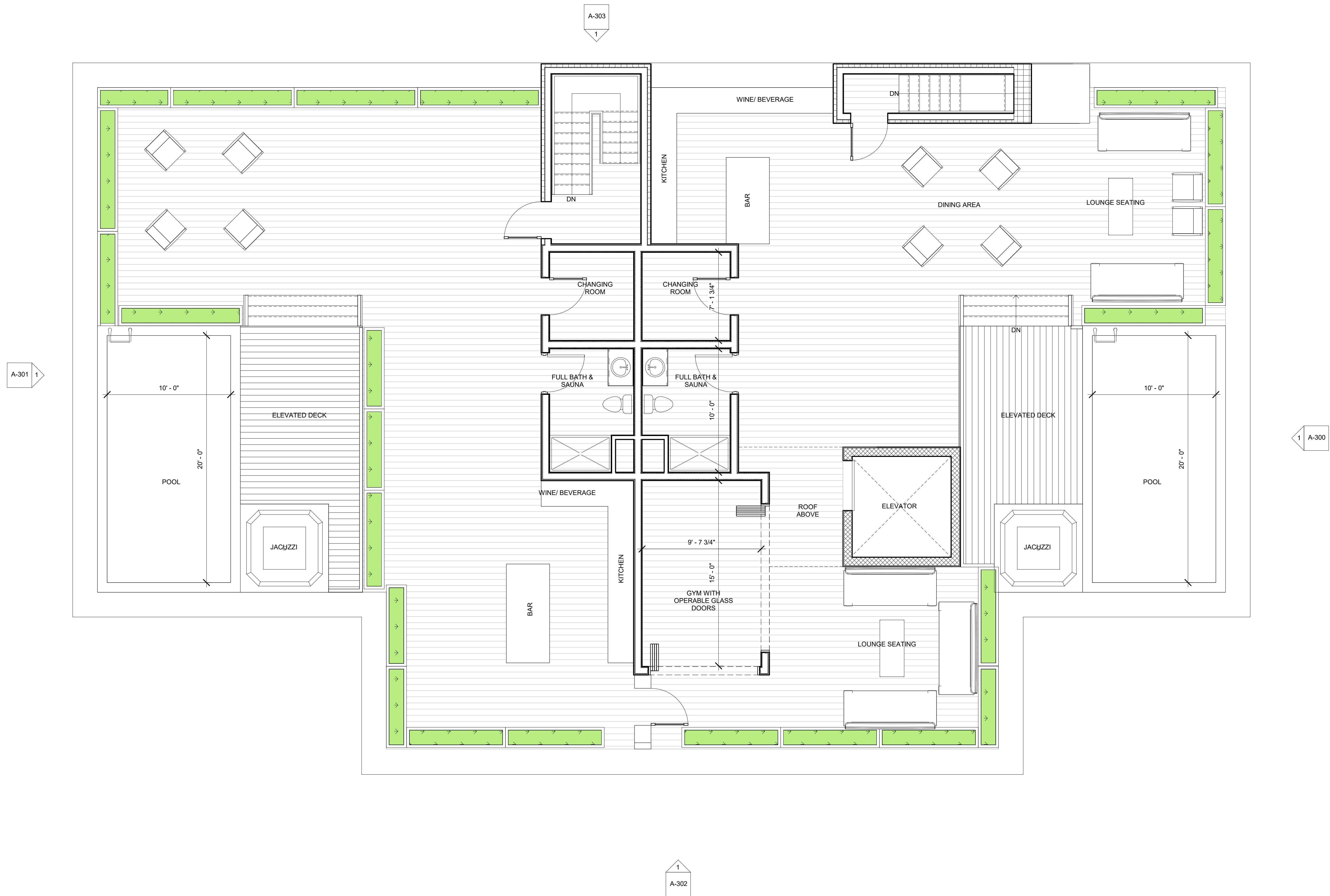
CLIENT

ARCHITECT

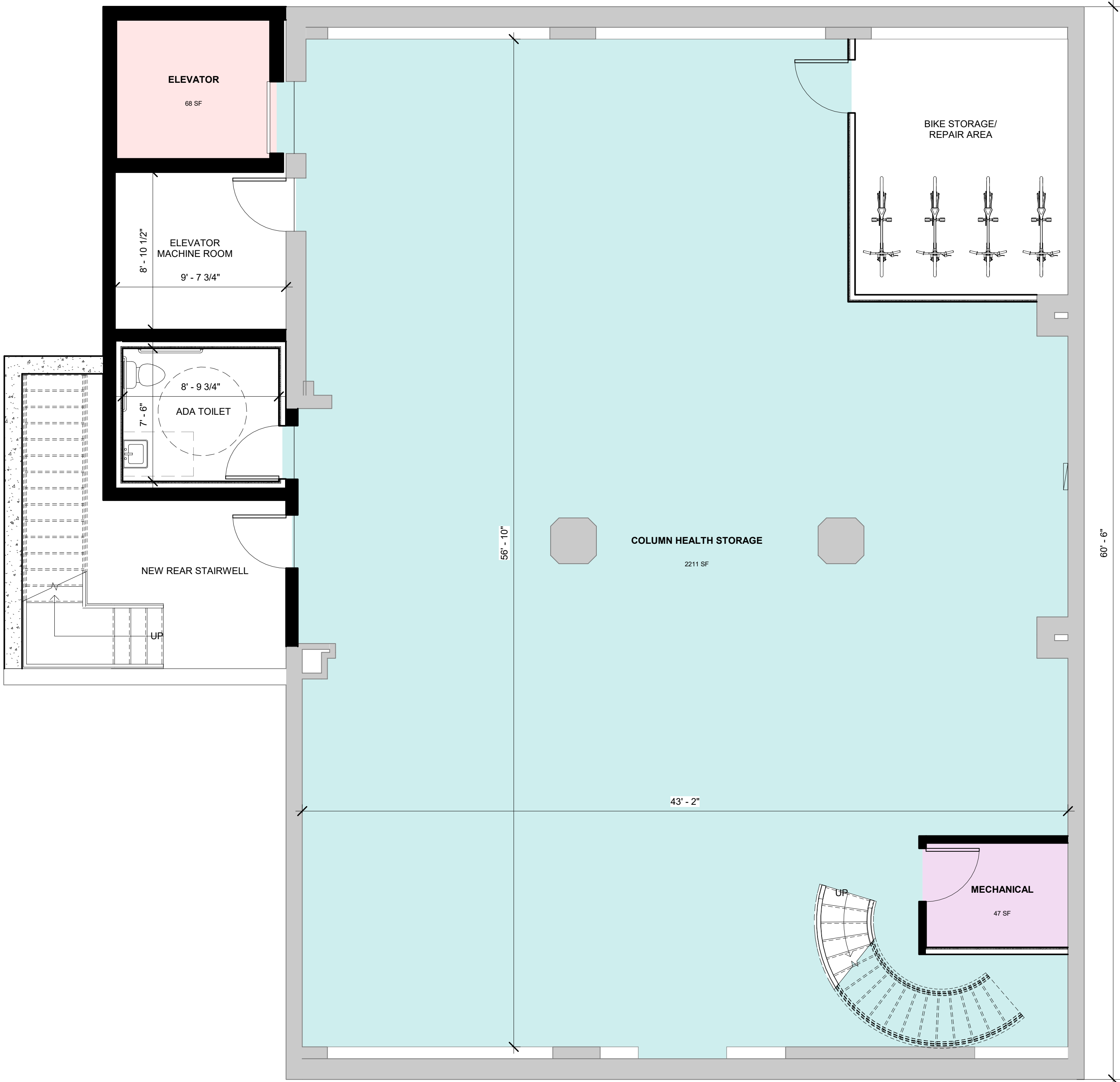
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0 SUNNYSIDE AVE



2/25/2021 10:10:08 AM



① 5 - Residential Roof Deck Level
1/4" = 1'-0"



1 Proposed Basement Level
1/4" = 1'-0"

WALL TYPE	
	EXISTING WALL
	PROPOSED WALL

PROJECT NAME
10 SUNNYSIDE AVE

PROJECT ADDRESS
10 Sunnyside Ave
Arlington MA

CLIENT

Column Health LLC

ARCHITECT


KHALSA

17 IVALOO STREET SUITE 400
SOMERVILLE, MA 02143
TELEPHONE: 617-591-8682 FAX:
617-591-2086

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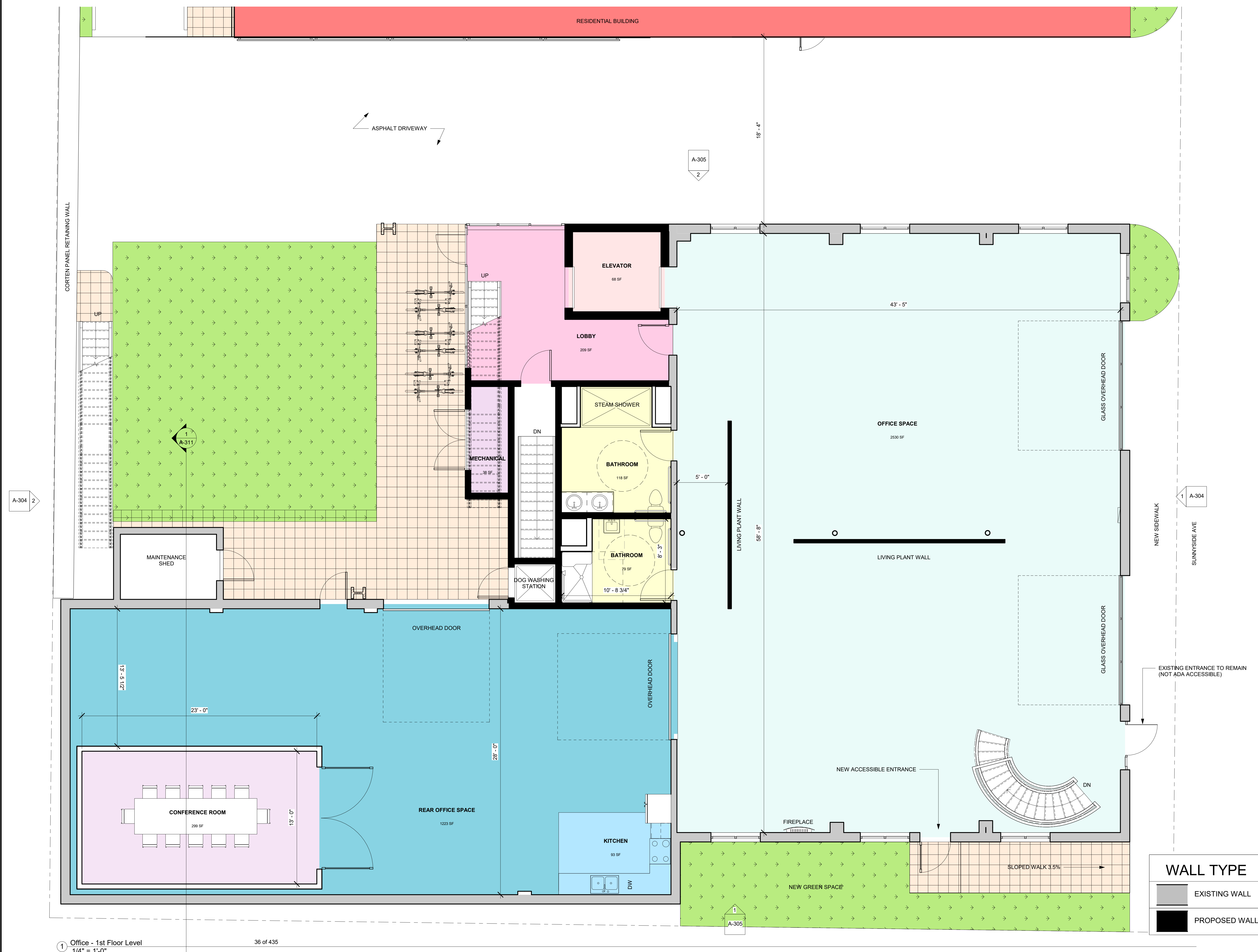
Project number	19119
Date	12-08-20
Drawn by	MB
Checked by	WC
Scale	1/4" = 1'-0"

REVISIONS		
No.	Description	Date

Commercial -
Basement Floor
Plan

A-106

10 SUNNYSIDE AVE



PROJECT NAME
10 SUNNYSIDE AVE

PROJECT ADDRESS
10 Sunnyside Ave
Arlington MA

CLIENT
Column Health LLC

ARCHITECT
DESIGN KHALSA

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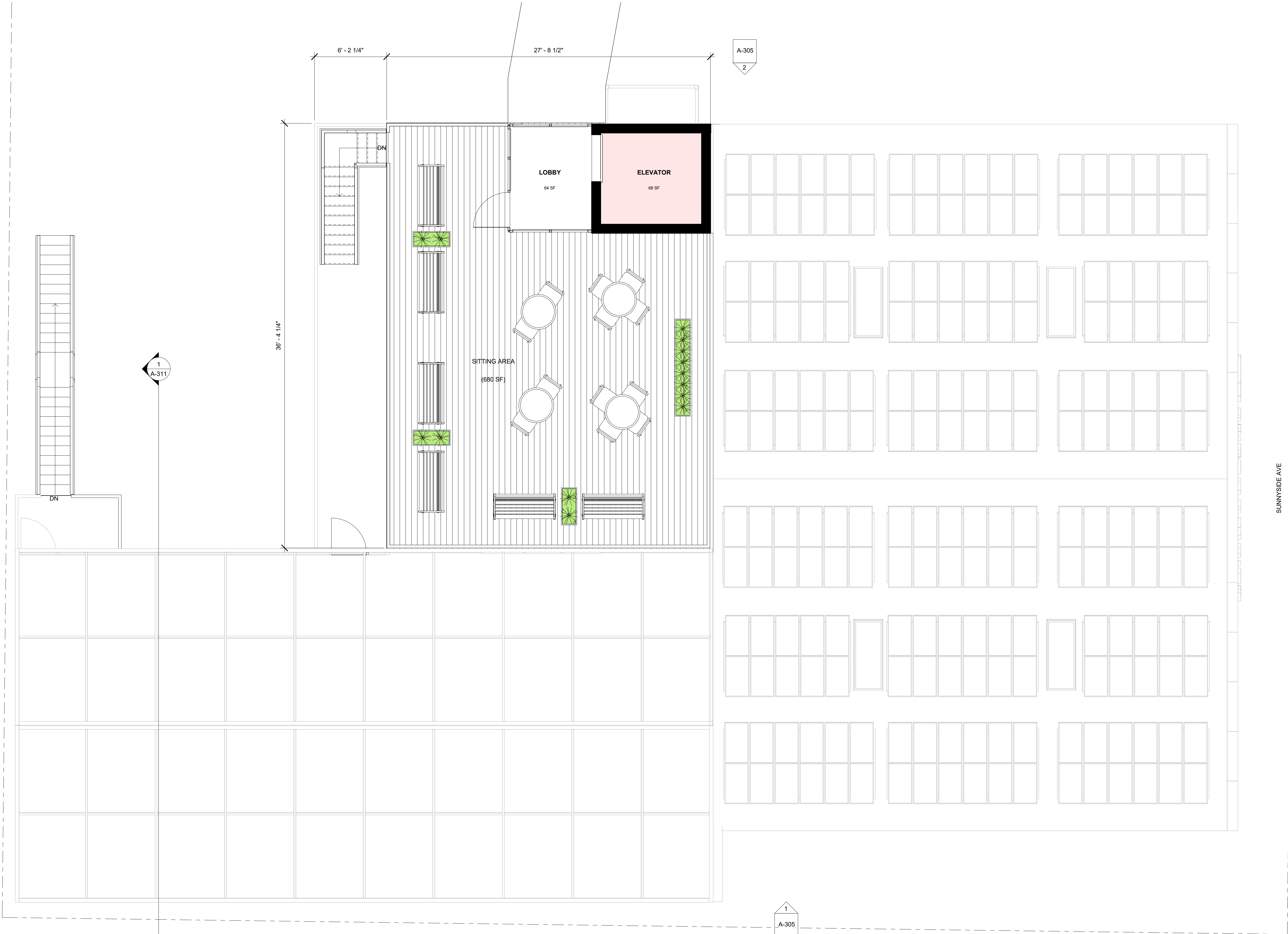
REVISIONS		
No.	Description	Date

Commercial - First
Floor Plan

A-107

10 SUNNYSIDE AVE





1 Proposed Roof Deck Level
1/4" = 1'-0"

PROJECT NAME

10 SUNNYSIDE
AVE

PROJECT ADDRESS

10 Sunnyside Ave
Arlington MA

CLIENT

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ARCHITECT

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REGISTRATION

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Checked by	WC
Scale	1/4" = 1'-0"

REVISIONS		
No.	Description	Date

Commercial - Roof
Deck Floor Plan

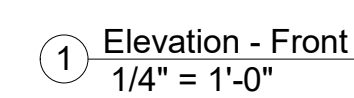
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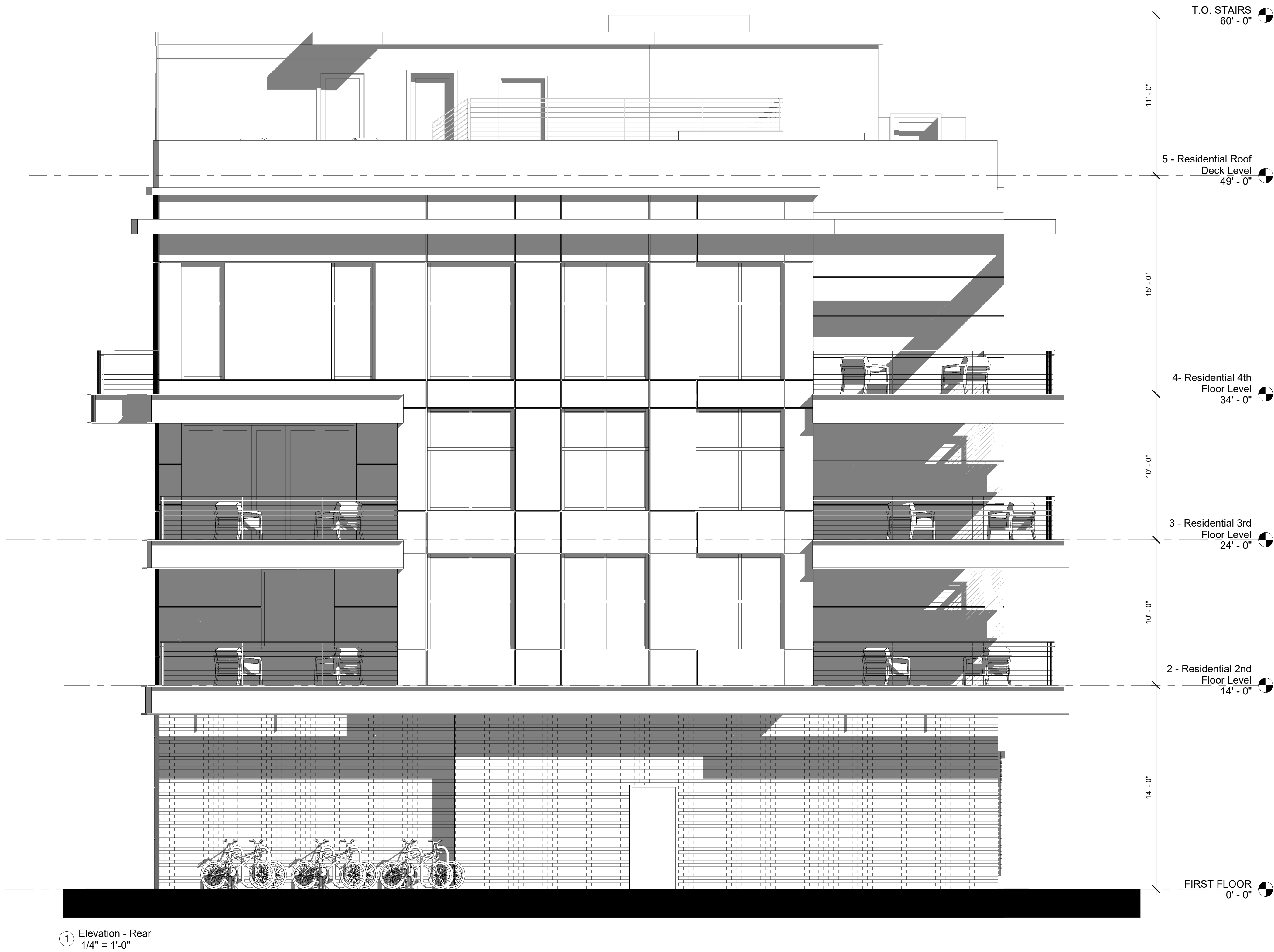
10 SUNNYSIDE AVE

**10 SUNNYSIDE
AVE**

Column Health LLC

0 SUNNYSIDE AVE





PROJECT NAME

10 SUNNYSIDE AVE

PROJECT ADDRESS

10 Sunnyside Ave
Arlington MA

CLIENT

Column Health LLC

ARCHITECT



KHALSA

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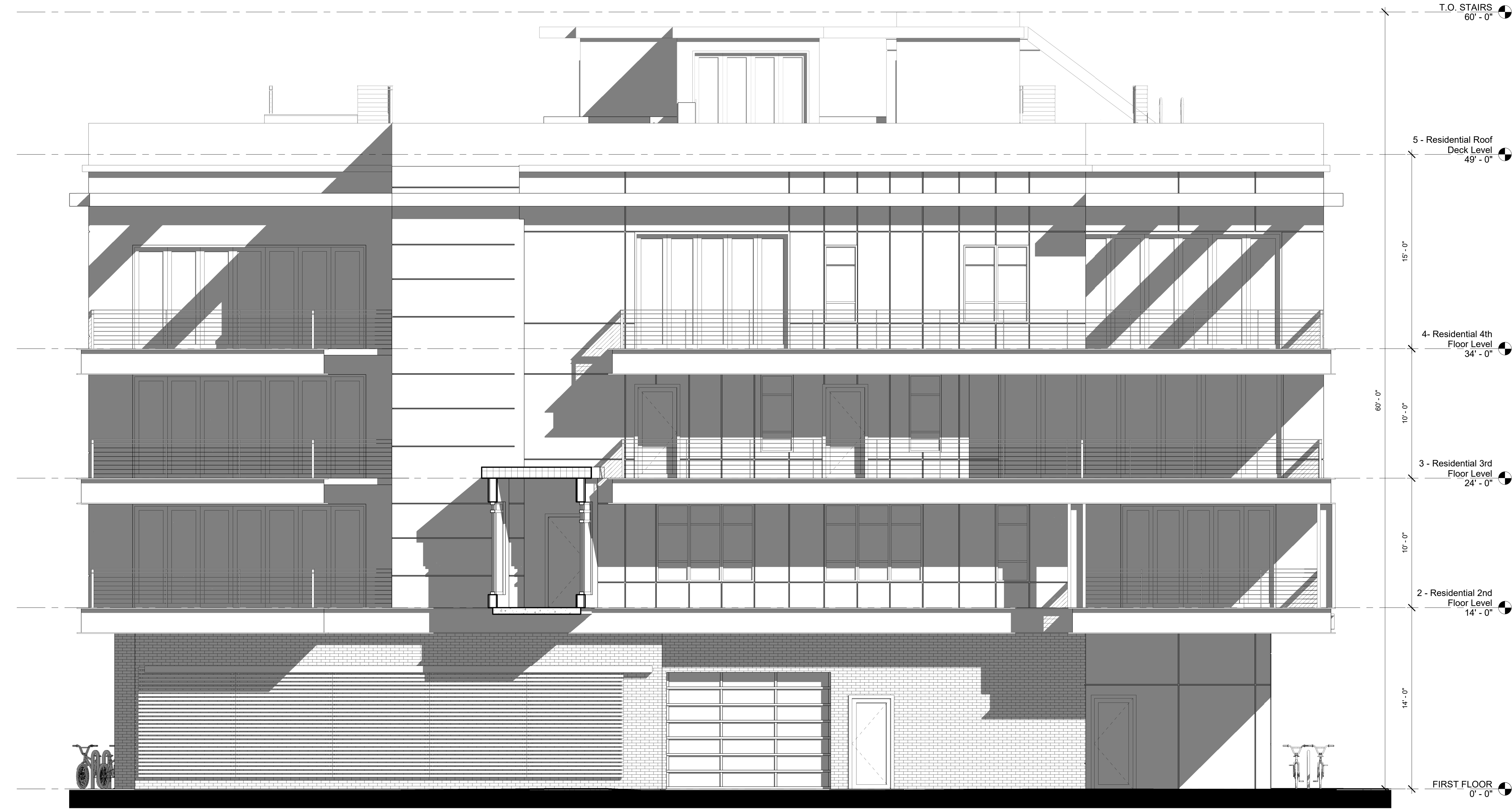
Project number	19119
Date	12-08-20
Drawn by	MB
Checked by	WC
Scale	1/4" = 1'-0"

REVISIONS		
No.	Description	Date

Residential - Rear
Elevation

A-301

10 SUNNYSIDE AVE




① Elevation - Left Side
1/4" = 1'-0"

PROJECT NAME
10 SUNNYSIDE AVE

PROJECT ADDRESS
10 Sunnyside Ave
Arlington MA

CLIENT
Column Health LLC

ARCHITECT



17 IVALOO STREET SUITE 400
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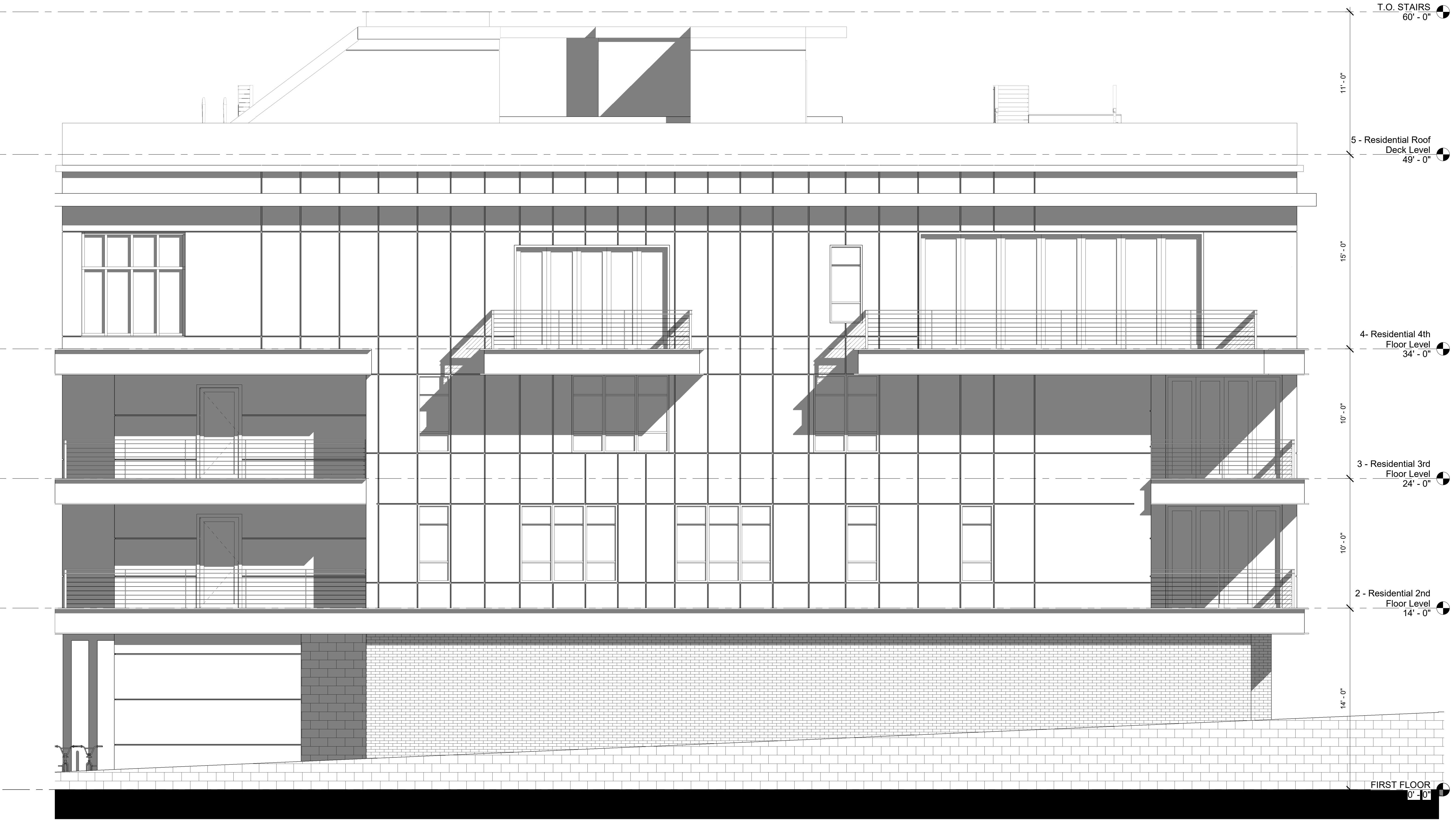
Project number	19119
Date	12-08-20
Drawn by	MB
Checked by	WC
Scale	1/4" = 1'-0"

REVISIONS		
No.	Description	Date

Residential - Left
Side Elevation

A-302

10 SUNNYSIDE AVE



① Elevation - Right Side
1/4" = 1'-0"

PROJECT NAME

10 SUNNYSIDE
AVE

PROJECT ADDRESS

10 Sunnyside Ave
Arlington MA

CLIENT

Column Health LLC

ARCHITECT



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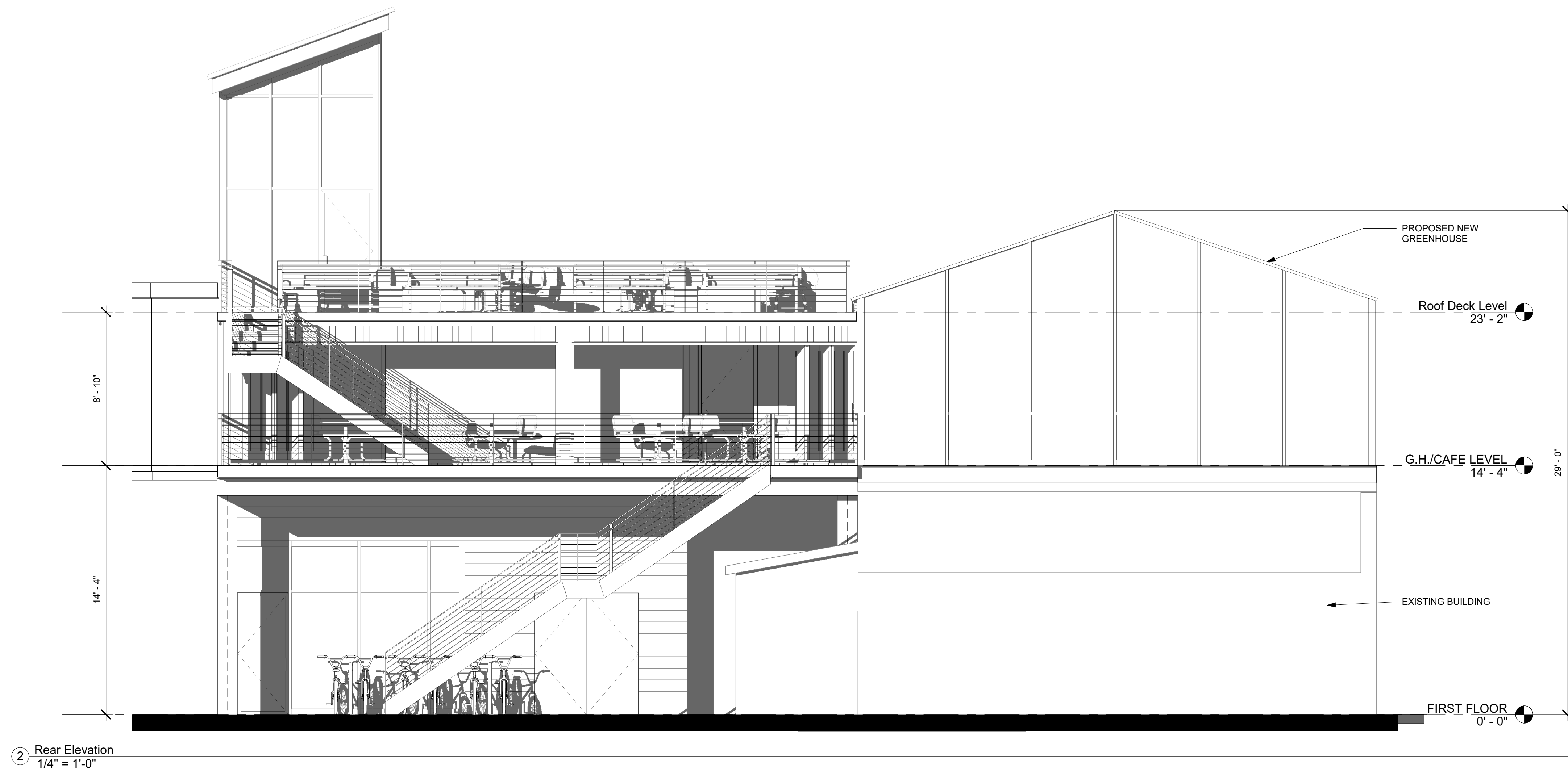
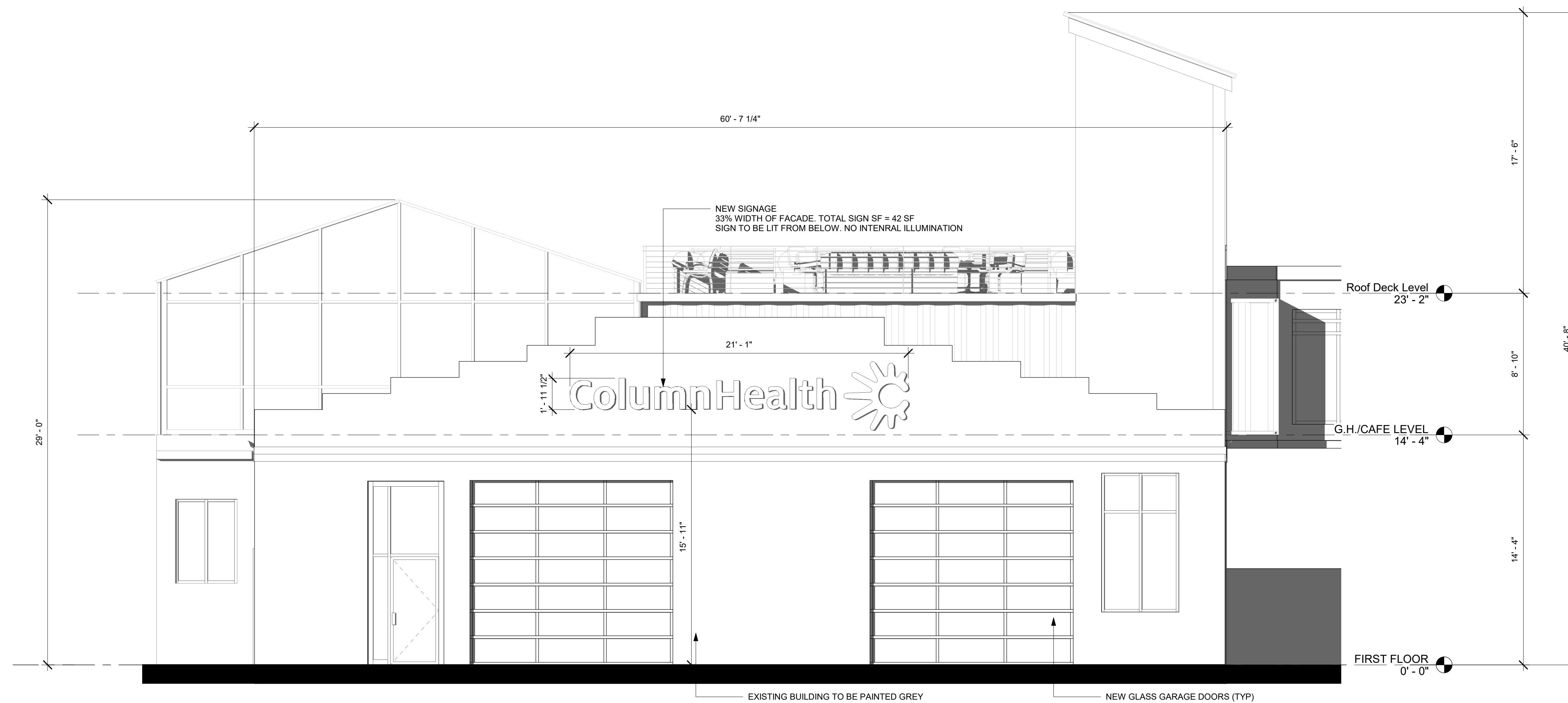
REVISIONS

No.	Description	Date

Residential - Right
Side Elevation

A-303

10 SUNNYSIDE AVE



PROJECT NAME

**10 SUNNYSIDE
AVE**

PROJECT ADDRESS

10 Sunnyside Ave
Arlington MA

CLIENT

Column Health LLC

ARCHITECT



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Checked by	Checker
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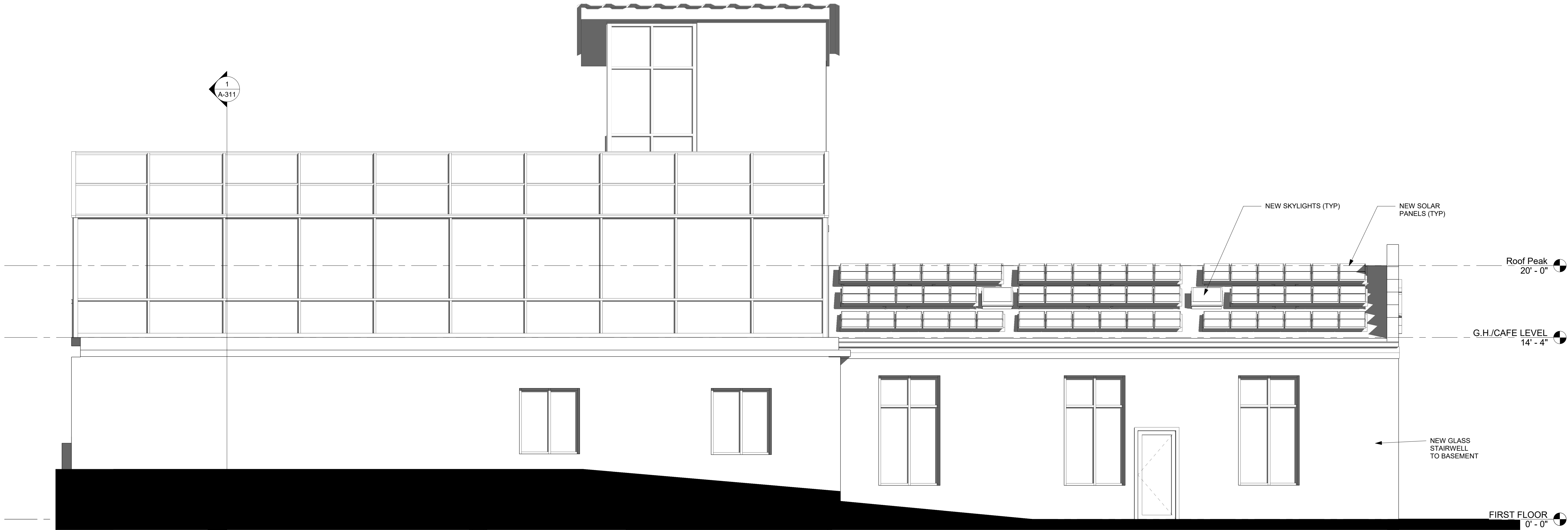
REVISIONS

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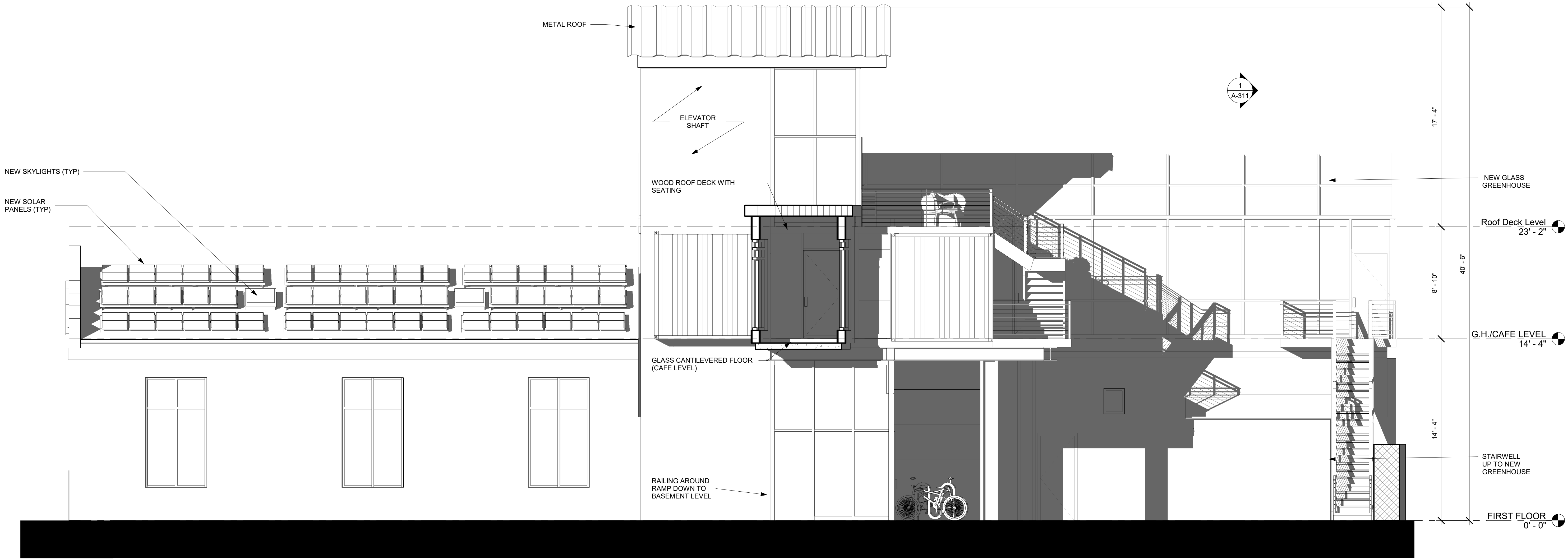
Commercial - Front & Rear Elevations

A-304

10 SUNNYSIDE AVE



① Left Elevation
1/4" = 1'-0"



② Right Elevation
1/4" = 1'-0"

PROJECT NAME

**10 SUNNYSIDE
AVE**

PROJECT ADDRESS

10 Sunnyside Ave
Arlington MA

CLIENT

Column Health LLC

ARCHITECT



17 IVALOO STREET SUITE 400
SOMERVILLE, MA 02143
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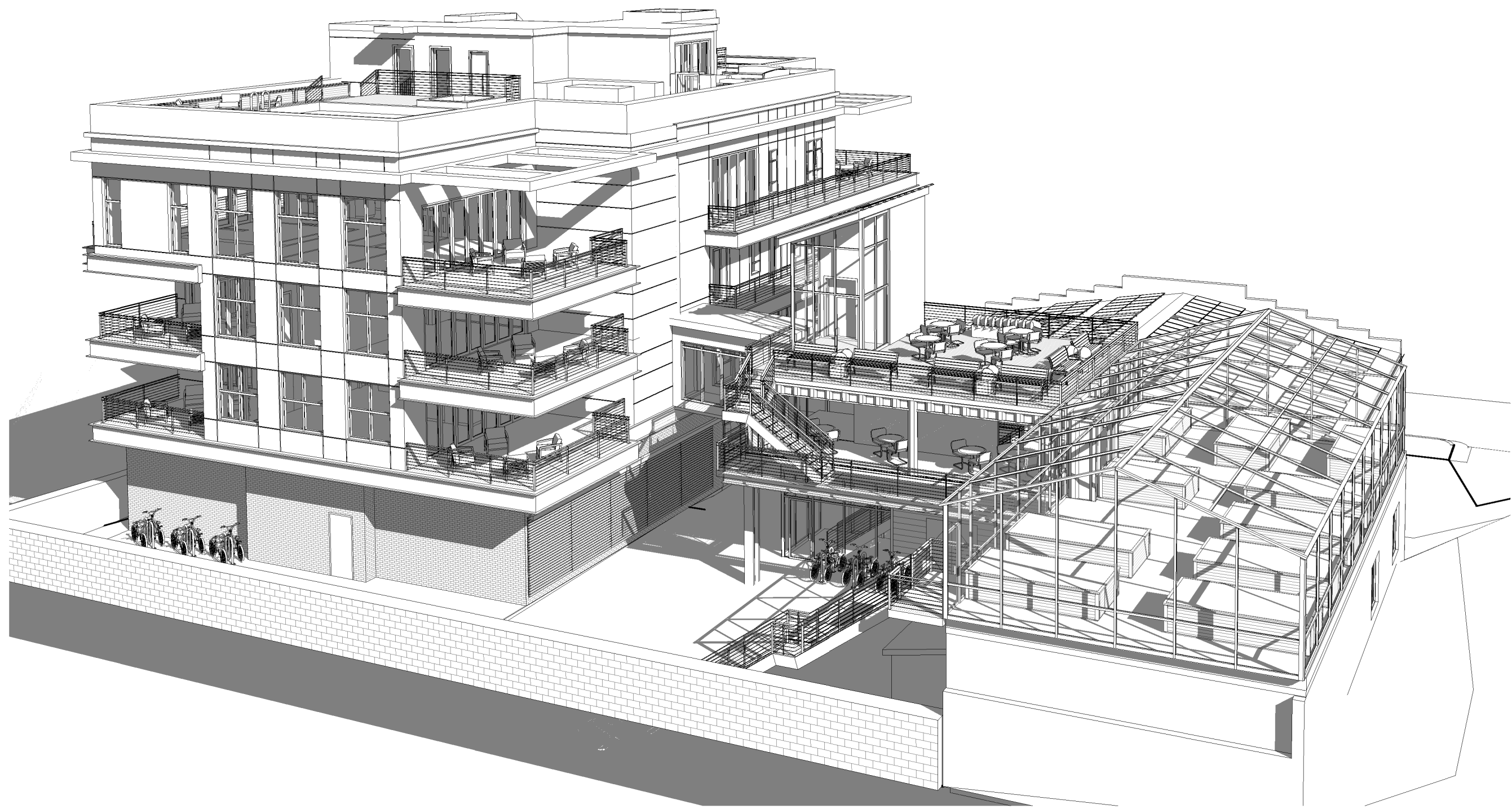
REVISIONS

No.	Description	Date

**Commercial - Left
& Right Elevations**

A-305

10 SUNNYSIDE AVE



3 Rear Aerial View #1



1 Perspective #1



4 Street View



2 Perspective #2

PROJECT NAME

10 SUNNYSIDE
AVE

PROJECT ADDRESS

10 Sunnyside Ave
Arlington MA

CLIENT

Column Health LLC

ARCHITECT



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REGISTRATION



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Date 12-08-20
Drawn by MB
Checked by WC
Scale

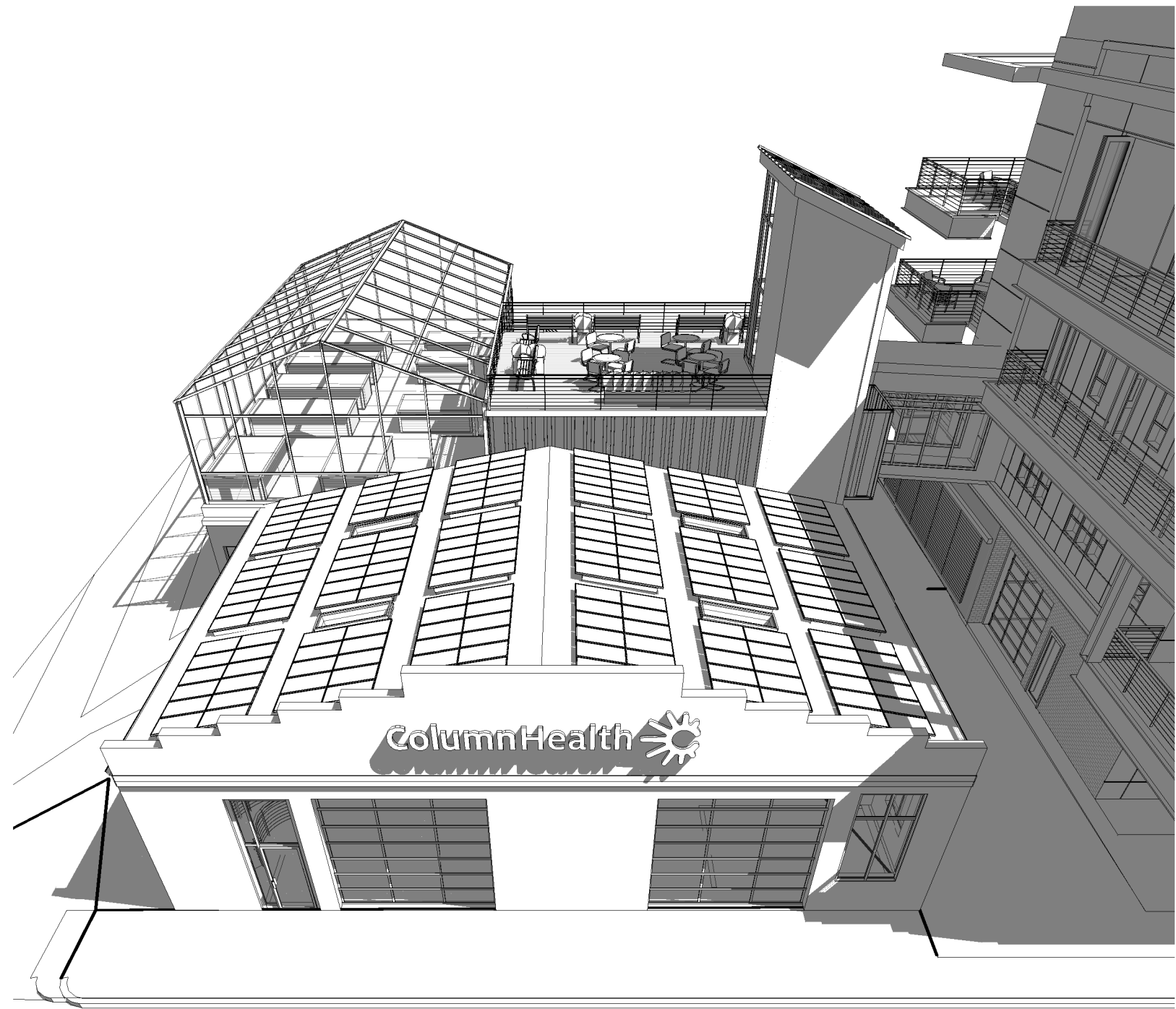
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No.	Description	Date

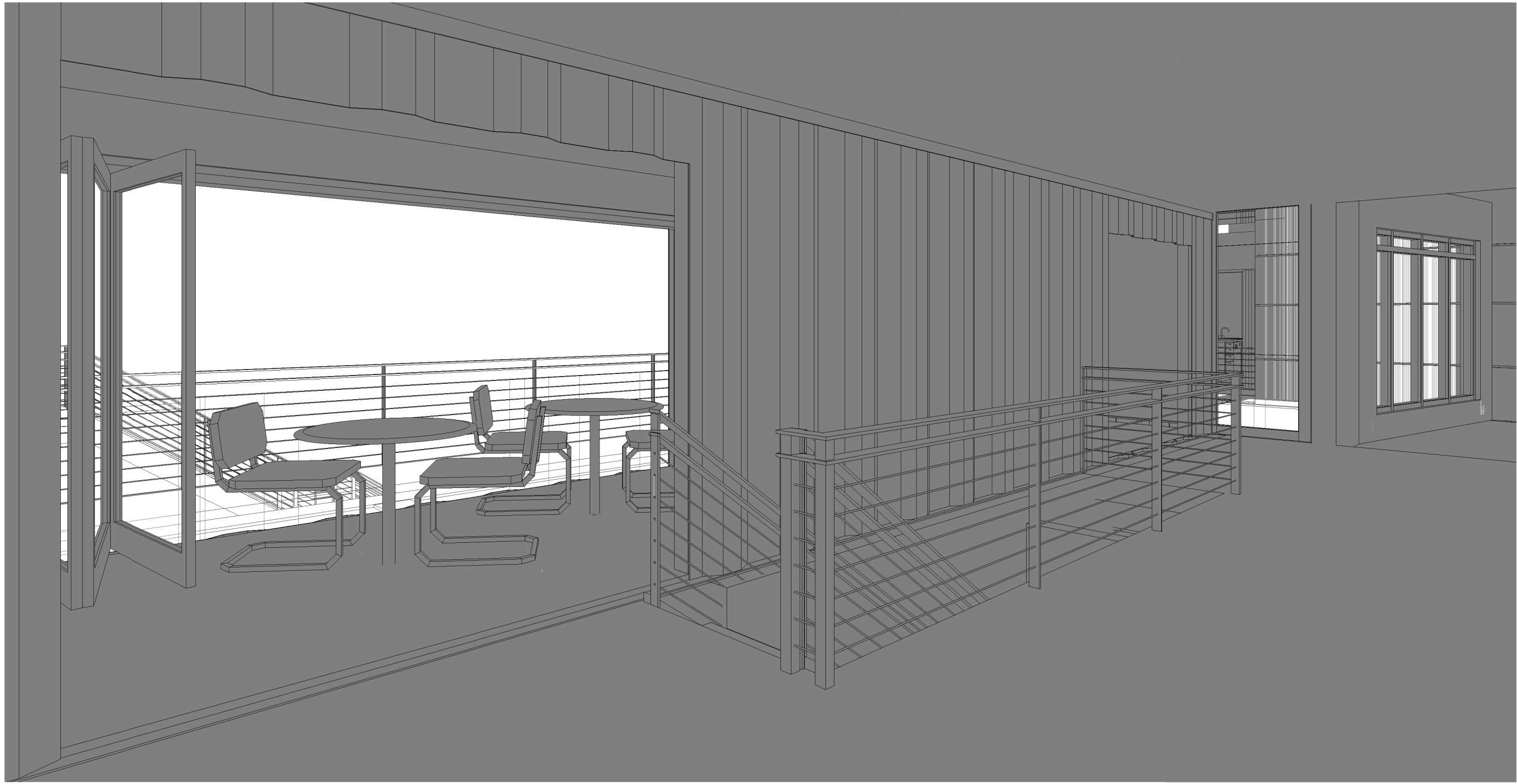
Perspectives #1

A-306

10 SUNNYSIDE AVE



1 FRONT AERIAL PERSPECTIVE



2 CAFE LOUNGE VIEW



3 GREENHOUSE VIEW



4 REAR VIEW

PROJECT NAME

10 SUNNYSIDE
AVE

PROJECT ADDRESS

10 Sunnyside Ave
Arlington MA

CLIENT

Column Health LLC

ARCHITECT



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REGISTRATION



Project number 19119
Date 12-08-20
Drawn by MB
Checked by WC
Scale

REVISIONS

No.	Description	Date

Perspectives #2

A-307

10 SUNNYSIDE AVE



PROPOSED DEVELOPMENT VIEW LOOKING DOWN SUNNYSIDE AVENUE

PROJECT NAME
**10 SUNNYSIDE
AVE**

PROJECT ADDRESS
10 Sunnyside Ave
Arlington MA

CLIENT
Column Health LLC

ARCHITECT



17 IVALOO STREET SUITE 400
SOMERVILLE, MA 02143
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Project number	19119
Date	12-08-20
Drawn by	Author
Checked by	Checker
Scale	

REVISIONS		
No.	Description	Date

Realistic
Rendering

A-308

10 SUNNYSIDE AVE



PROPOSED DEVELOPMENT VIEW LOOKING DOWN SUNNYSIDE AVENUE

PROJECT NAME
**10 SUNNYSIDE
AVE**

PROJECT ADDRESS
10 Sunnyside Ave
Arlington MA

CLIENT

Column Health LLC

ARCHITECT



17 IVALOO STREET SUITE 400
SOMERVILLE, MA 02143
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Project number	19119
Date	12-08-20
Drawn by	Author
Checked by	Checker
Scale	

REVISIONS		
No.	Description	Date

Realistic
Rendering

A-309
10 SUNNYSIDE AVE



PROJECT NAME
**10 SUNNYSIDE
AVE**

PROJECT ADDRESS
10 Sunnyside Ave
Arlington MA

CLIENT
Column Health LLC

ARCHITECT


KHALSA

17 IVALOO STREET SUITE 400
SOMERVILLE, MA 02143
TELEPHONE: 617-591-8682 FAX:
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Scale	

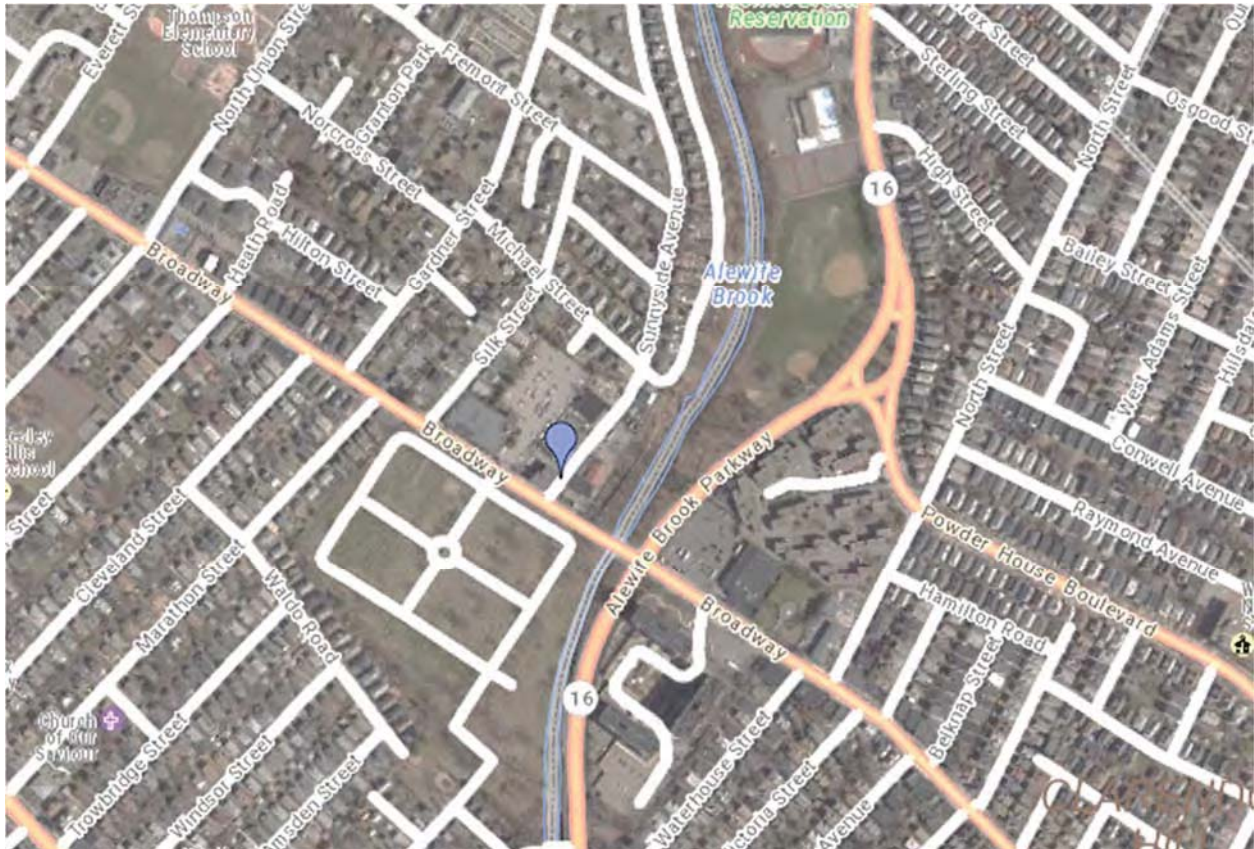
REVISIONS		
No.	Description	Date

Realistic
Perspectives

A-310

10 SUNNYSIDE AVE

STORMWATER MANAGEMENT REPORT



**Proposed Mixed-Use
Redevelopment**
10 Sunnyside Avenue
Arlington, Massachusetts 02474



Owner/Applicant:
Column Health LLC
339 Massachusetts Ave
Arlington, MA 02474
Phone: (617) 539-6780

Project Number: 1620000049
Submitted: November 17, 2020

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FIGURES

FIGURE 1

Existing Conditions Drainage Areas

FIGURE 2

Proposed Conditions Drainage Areas



Checklist for Stormwater Report

A. Introduction

Important: When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.



A Stormwater Report must be submitted with the Notice of Intent permit application to document compliance with the Stormwater Management Standards. The following checklist is NOT a substitute for the Stormwater Report (which should provide more substantive and detailed information) but is offered here as a tool to help the applicant organize their Stormwater Management documentation for their Report and for the reviewer to assess this information in a consistent format. As noted in the Checklist, the Stormwater Report must contain the engineering computations and supporting information set forth in Volume 3 of the [Massachusetts Stormwater Handbook](#). The Stormwater Report must be prepared and certified by a Registered Professional Engineer (RPE) licensed in the Commonwealth.

The Stormwater Report must include:

- The Stormwater Checklist completed and stamped by a Registered Professional Engineer (see page 2) that certifies that the Stormwater Report contains all required submittals.¹ This Checklist is to be used as the cover for the completed Stormwater Report.
- Applicant/Project Name
- Project Address
- Name of Firm and Registered Professional Engineer that prepared the Report
- Long-Term Pollution Prevention Plan required by Standards 4-6
- Construction Period Pollution Prevention and Erosion and Sedimentation Control Plan required by Standard 8²
- Operation and Maintenance Plan required by Standard 9

In addition to all plans and supporting information, the Stormwater Report must include a brief narrative describing stormwater management practices, including environmentally sensitive site design and LID techniques, along with a diagram depicting runoff through the proposed BMP treatment train. Plans are required to show existing and proposed conditions, identify all wetland resource areas, NRCS soil types, critical areas, Land Uses with Higher Potential Pollutant Loads (LUHPPL), and any areas on the site where infiltration rate is greater than 2.4 inches per hour. The Plans shall identify the drainage areas for both existing and proposed conditions at a scale that enables verification of supporting calculations.

As noted in the Checklist, the Stormwater Management Report shall document compliance with each of the Stormwater Management Standards as provided in the Massachusetts Stormwater Handbook. The soils evaluation and calculations shall be done using the methodologies set forth in Volume 3 of the Massachusetts Stormwater Handbook.

To ensure that the Stormwater Report is complete, applicants are required to fill in the Stormwater Report Checklist by checking the box to indicate that the specified information has been included in the Stormwater Report. If any of the information specified in the checklist has not been submitted, the applicant must provide an explanation. The completed Stormwater Report Checklist and Certification must be submitted with the Stormwater Report.

¹ The Stormwater Report may also include the Illicit Discharge Compliance Statement required by Standard 10. If not included in the Stormwater Report, the Illicit Discharge Compliance Statement must be submitted prior to the discharge of stormwater runoff to the post-construction best management practices.

² For some complex projects, it may not be possible to include the Construction Period Erosion and Sedimentation Control Plan in the Stormwater Report. In that event, the issuing authority has the discretion to issue an Order of Conditions that approves the project and includes a condition requiring the proponent to submit the Construction Period Erosion and Sedimentation Control Plan before commencing any land disturbance activity on the site.



Checklist for Stormwater Report

B. Stormwater Checklist and Certification

The following checklist is intended to serve as a guide for applicants as to the elements that ordinarily need to be addressed in a complete Stormwater Report. The checklist is also intended to provide conservation commissions and other reviewing authorities with a summary of the components necessary for a comprehensive Stormwater Report that addresses the ten Stormwater Standards.

Note: Because stormwater requirements vary from project to project, it is possible that a complete Stormwater Report may not include information on some of the subjects specified in the Checklist. If it is determined that a specific item does not apply to the project under review, please note that the item is not applicable (N.A.) and provide the reasons for that determination.

A complete checklist must include the Certification set forth below signed by the Registered Professional Engineer who prepared the Stormwater Report.

Registered Professional Engineer's Certification

I have reviewed the Stormwater Report, including the soil evaluation, computations, Long-term Pollution Prevention Plan, the Construction Period Erosion and Sedimentation Control Plan (if included), the Long-term Post-Construction Operation and Maintenance Plan, the Illicit Discharge Compliance Statement (if included) and the plans showing the stormwater management system, and have determined that they have been prepared in accordance with the requirements of the Stormwater Management Standards as further elaborated by the Massachusetts Stormwater Handbook. I have also determined that the information presented in the Stormwater Checklist is accurate and that the information presented in the Stormwater Report accurately reflects conditions at the site as of the date of this permit application.

Registered Professional Engineer Block and Signature

Signature and Date

Checklist

Project Type: Is the application for new development, redevelopment, or a mix of new and redevelopment?

- ☐ New development
- ☒ Redevelopment
- ☐ Mix of New Development and Redevelopment



Checklist for Stormwater Report

Checklist (continued)

LID Measures: Stormwater Standards require LID measures to be considered. Document what environmentally sensitive design and LID Techniques were considered during the planning and design of the project:

- ☐ No disturbance to any Wetland Resource Areas
- ☐ Site Design Practices (e.g. clustered development, reduced frontage setbacks)
- ☐ Reduced Impervious Area (Redevelopment Only)
- ☐ Minimizing disturbance to existing trees and shrubs
- ☐ LID Site Design Credit Requested:
 - ☐ Credit 1
 - ☐ Credit 2
 - ☐ Credit 3
- ☐ Use of "country drainage" versus curb and gutter conveyance and pipe
- ☐ Bioretention Cells (includes Rain Gardens)
- ☐ Constructed Stormwater Wetlands (includes Gravel Wetlands designs)
- ☐ Treebox Filter
- ☐ Water Quality Swale
- ☐ Grass Channel
- ☐ Green Roof
- ☐ Other (describe): _____

Standard 1: No New Untreated Discharges

- ☒ No new untreated discharges
- ☐ Outlets have been designed so there is no erosion or scour to wetlands and waters of the Commonwealth
- ☐ Supporting calculations specified in Volume 3 of the Massachusetts Stormwater Handbook included.



Checklist for Stormwater Report

Checklist (continued)

Standard 2: Peak Rate Attenuation

- ☐ Standard 2 waiver requested because the project is located in land subject to coastal storm flowage and stormwater discharge is to a wetland subject to coastal flooding.
- ☒ Evaluation provided to determine whether off-site flooding increases during the 100-year 24-hour storm.
- ☒ Calculations provided to show that post-development peak discharge rates do not exceed pre-development rates for the 2-year and 10-year 24-hour storms. If evaluation shows that off-site flooding increases during the 100-year 24-hour storm, calculations are also provided to show that post-development peak discharge rates do not exceed pre-development rates for the 100-year 24-hour storm.

Standard 3: Recharge

- ☒ Soil Analysis provided.
- ☒ Required Recharge Volume calculation provided.
- ☐ Required Recharge volume reduced through use of the LID site Design Credits.
- ☒ Sizing the infiltration, BMPs is based on the following method: Check the method used.
 - ☒ Static
 - ☐ Simple Dynamic
 - ☐ Dynamic Field¹
- ☐ Runoff from all impervious areas at the site discharging to the infiltration BMP.
- ☒ Runoff from all impervious areas at the site is *not* discharging to the infiltration BMP and calculations are provided showing that the drainage area contributing runoff to the infiltration BMPs is sufficient to generate the required recharge volume.
- ☒ Recharge BMPs have been sized to infiltrate the Required Recharge Volume.
- ☐ Recharge BMPs have been sized to infiltrate the Required Recharge Volume *only* to the maximum extent practicable for the following reason:
 - ☐ Site is comprised solely of C and D soils and/or bedrock at the land surface
 - ☐ M.G.L. c. 21E sites pursuant to 310 CMR 40.0000
 - ☐ Solid Waste Landfill pursuant to 310 CMR 19.000
 - ☐ Project is otherwise subject to Stormwater Management Standards only to the maximum extent practicable.
- ☒ Calculations showing that the infiltration BMPs will drain in 72 hours are provided.
- ☐ Property includes a M.G.L. c. 21E site or a solid waste landfill and a mounding analysis is included.

¹ 80% TSS removal is required prior to discharge to infiltration BMP if Dynamic Field method is used.



Checklist for Stormwater Report

Checklist (continued)

Standard 3: Recharge (continued)

- ☒ The infiltration BMP is used to attenuate peak flows during storms greater than or equal to the 10-year 24-hour storm and separation to seasonal high groundwater is less than 4 feet and a mounding analysis is provided.
- ☐ Documentation is provided showing that infiltration BMPs do not adversely impact nearby wetland resource areas.

Standard 4: Water Quality

The Long-Term Pollution Prevention Plan typically includes the following:

- Good housekeeping practices;
 - Provisions for storing materials and waste products inside or under cover;
 - Vehicle washing controls;
 - Requirements for routine inspections and maintenance of stormwater BMPs;
 - Spill prevention and response plans;
 - Provisions for maintenance of lawns, gardens, and other landscaped areas;
 - Requirements for storage and use of fertilizers, herbicides, and pesticides;
 - Pet waste management provisions;
 - Provisions for operation and management of septic systems;
 - Provisions for solid waste management;
 - Snow disposal and plowing plans relative to Wetland Resource Areas;
 - Winter Road Salt and/or Sand Use and Storage restrictions;
 - Street sweeping schedules;
 - Provisions for prevention of illicit discharges to the stormwater management system;
 - Documentation that Stormwater BMPs are designed to provide for shutdown and containment in the event of a spill or discharges to or near critical areas or from LUHPPL;
 - Training for staff or personnel involved with implementing Long-Term Pollution Prevention Plan;
 - List of Emergency contacts for implementing Long-Term Pollution Prevention Plan.
- ☒ A Long-Term Pollution Prevention Plan is attached to Stormwater Report and is included as an attachment to the Wetlands Notice of Intent.
 - ☐ Treatment BMPs subject to the 44% TSS removal pretreatment requirement and the one inch rule for calculating the water quality volume are included, and discharge:
 - ☐ is within the Zone II or Interim Wellhead Protection Area
 - ☐ is near or to other critical areas
 - ☐ is within soils with a rapid infiltration rate (greater than 2.4 inches per hour)
 - ☐ involves runoff from land uses with higher potential pollutant loads.
 - ☐ The Required Water Quality Volume is reduced through use of the LID site Design Credits.
 - ☐ Calculations documenting that the treatment train meets the 80% TSS removal requirement and, if applicable, the 44% TSS removal pretreatment requirement, are provided.



Checklist for Stormwater Report

Checklist (continued)

Standard 4: Water Quality (continued)

- ☒ The BMP is sized (and calculations provided) based on:
 - ☒ The ½" or 1" Water Quality Volume or
 - ☐ The equivalent flow rate associated with the Water Quality Volume and documentation is provided showing that the BMP treats the required water quality volume.
- ☒ The applicant proposes to use proprietary BMPs, and documentation supporting use of proprietary BMP and proposed TSS removal rate is provided. This documentation may be in the form of the propriety BMP checklist found in Volume 2, Chapter 4 of the Massachusetts Stormwater Handbook and submitting copies of the TARP Report, STEP Report, and/or other third party studies verifying performance of the proprietary BMPs.
- ☐ A TMDL exists that indicates a need to reduce pollutants other than TSS and documentation showing that the BMPs selected are consistent with the TMDL is provided.

Standard 5: Land Uses With Higher Potential Pollutant Loads (LUHPPLs)

- ☐ The NPDES Multi-Sector General Permit covers the land use and the Stormwater Pollution Prevention Plan (SWPPP) has been included with the Stormwater Report.
- ☒ The NPDES Multi-Sector General Permit covers the land use and the SWPPP will be submitted **prior to** the discharge of stormwater to the post-construction stormwater BMPs.
- ☐ The NPDES Multi-Sector General Permit does **not** cover the land use.
- ☐ LUHPPLs are located at the site and industry specific source control and pollution prevention measures have been proposed to reduce or eliminate the exposure of LUHPPLs to rain, snow, snow melt and runoff, and been included in the long term Pollution Prevention Plan.
- ☐ All exposure has been eliminated.
- ☐ All exposure has **not** been eliminated and all BMPs selected are on MassDEP LUHPPL list.
- ☐ The LUHPPL has the potential to generate runoff with moderate to higher concentrations of oil and grease (e.g. all parking lots with >1000 vehicle trips per day) and the treatment train includes an oil grit separator, a filtering bioretention area, a sand filter or equivalent.

Standard 6: Critical Areas

- ☐ The discharge is near or to a critical area and the treatment train includes only BMPs that MassDEP has approved for stormwater discharges to or near that particular class of critical area.
- ☐ Critical areas and BMPs are identified in the Stormwater Report.



Checklist for Stormwater Report

Checklist (continued)

Standard 7: Redevelopments and Other Projects Subject to the Standards only to the maximum extent practicable

- ☒ The project is subject to the Stormwater Management Standards only to the maximum Extent Practicable as a:
 - ☐ Limited Project
 - ☐ Small Residential Projects: 5-9 single family houses or 5-9 units in a multi-family development provided there is no discharge that may potentially affect a critical area.
 - ☐ Small Residential Projects: 2-4 single family houses or 2-4 units in a multi-family development with a discharge to a critical area
 - ☐ Marina and/or boatyard provided the hull painting, service and maintenance areas are protected from exposure to rain, snow, snow melt and runoff
 - ☐ Bike Path and/or Foot Path
- ☒ Redevelopment Project
- ☐ Redevelopment portion of mix of new and redevelopment.
- ☐ Certain standards are not fully met (Standard No. 1, 8, 9, and 10 must always be fully met) and an explanation of why these standards are not met is contained in the Stormwater Report.
- ☐ The project involves redevelopment and a description of all measures that have been taken to improve existing conditions is provided in the Stormwater Report. The redevelopment checklist found in Volume 2 Chapter 3 of the Massachusetts Stormwater Handbook may be used to document that the proposed stormwater management system (a) complies with Standards 2, 3 and the pretreatment and structural BMP requirements of Standards 4-6 to the maximum extent practicable and (b) improves existing conditions.

Standard 8: Construction Period Pollution Prevention and Erosion and Sedimentation Control

A Construction Period Pollution Prevention and Erosion and Sedimentation Control Plan must include the following information:

- Narrative;
 - Construction Period Operation and Maintenance Plan;
 - Names of Persons or Entity Responsible for Plan Compliance;
 - Construction Period Pollution Prevention Measures;
 - Erosion and Sedimentation Control Plan Drawings;
 - Detail drawings and specifications for erosion control BMPs, including sizing calculations;
 - Vegetation Planning;
 - Site Development Plan;
 - Construction Sequencing Plan;
 - Sequencing of Erosion and Sedimentation Controls;
 - Operation and Maintenance of Erosion and Sedimentation Controls;
 - Inspection Schedule;
 - Maintenance Schedule;
 - Inspection and Maintenance Log Form.
- ☒ A Construction Period Pollution Prevention and Erosion and Sedimentation Control Plan containing the information set forth above has been included in the Stormwater Report.



Checklist for Stormwater Report

Checklist (continued)

Standard 8: Construction Period Pollution Prevention and Erosion and Sedimentation Control (continued)

- ☐ The project is highly complex and information is included in the Stormwater Report that explains why it is not possible to submit the Construction Period Pollution Prevention and Erosion and Sedimentation Control Plan with the application. A Construction Period Pollution Prevention and Erosion and Sedimentation Control has **not** been included in the Stormwater Report but will be submitted **before** land disturbance begins.
- ☐ The project is **not** covered by a NPDES Construction General Permit.
- ☐ The project is covered by a NPDES Construction General Permit and a copy of the SWPPP is in the Stormwater Report.
- ☐ The project is covered by a NPDES Construction General Permit but no SWPPP been submitted. The SWPPP will be submitted BEFORE land disturbance begins.

Standard 9: Operation and Maintenance Plan

- ☒ The Post Construction Operation and Maintenance Plan is included in the Stormwater Report and includes the following information:
 - ☒ Name of the stormwater management system owners;
 - ☒ Party responsible for operation and maintenance;
 - ☒ Schedule for implementation of routine and non-routine maintenance tasks;
 - ☒ Plan showing the location of all stormwater BMPs maintenance access areas;
 - ☒ Description and delineation of public safety features;
 - ☒ Estimated operation and maintenance budget; and
 - ☒ Operation and Maintenance Log Form.
- ☐ The responsible party is **not** the owner of the parcel where the BMP is located and the Stormwater Report includes the following submissions:
 - ☐ A copy of the legal instrument (deed, homeowner's association, utility trust or other legal entity) that establishes the terms of and legal responsibility for the operation and maintenance of the project site stormwater BMPs;
 - ☐ A plan and easement deed that allows site access for the legal entity to operate and maintain BMP functions.

Standard 10: Prohibition of Illicit Discharges

- ☒ The Long-Term Pollution Prevention Plan includes measures to prevent illicit discharges;
- ☐ An Illicit Discharge Compliance Statement is attached;
- ☐ NO Illicit Discharge Compliance Statement is attached but will be submitted **prior to** the discharge of any stormwater to post-construction BMPs.

STORMWATER MANAGEMENT REPORT NARRATIVE

This Stormwater Management Report has been prepared to demonstrate compliance with the Massachusetts Department of Environmental Protection (MassDEP) Stormwater Management Standards in accordance with the Massachusetts Wetlands Protection Act Regulations (310 CMR 10.00) and Water Quality Certification Regulations (314 CMR 9.00). This report also demonstrates compliance with the Town of Arlington Stormwater Management Guidelines

PROJECT DESCRIPTION

The Applicant, Column Health, LLC, is proposing to redevelop an existing parcel of land located at 10 Sunnyside Avenue in Arlington, MA. The Site currently consists of an existing building and a parking lot. The Applicant proposes to redevelop the Site in order to construct two buildings and six surface parking spaces. (the Project). As proposed, the Project consists of a 5,972 square foot (sf) residential building (roof area), a 5,876 sf office building, ancillary parking spaces (15), landscape improvements, and utility and stormwater management improvements to support the redevelopment.

SITE DESCRIPTION

The Site is an approximately 0.38-acre parcel of land located at 10 Sunnyside Avenue in Arlington, Massachusetts and is bounded by vehicle-oriented business properties to the north and east, and major business properties to the south and west (see Exhibit 1). The Site lies within the Alewife Brook Watershed (see Exhibit 2).

The Site is not located within the 100-year flood plain, and is not located within a flood zone, as shown on the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) for the Town of Arlington, Map # 25017C0419E, dated June 4, 2010 (see Exhibit 3).

Existing topography within the site ranges from approximately elevation 16 in the west corner to elevation 13 at the eastern property line along Sunnyside Ave. The northwest and northeast sides of the property are bound by a retaining wall, varying in height from one to five feet in height, with the subject site being lower than the abutting properties. Please refer to the Existing Conditions Plan, which is included as part of the Site Plans.

Based on available information and field observations, there are no known wetland resource areas or associated buffers located on the Site.

Test Borings show site soils to be glacial outwash comprised of loose, wet silt to a depth of approximately 25 feet below existing surface. Approximate groundwater elevation is seven feet below existing surface. Based on the geotechnical information, for calculation purposes an HSG of C was used for all subsurface soils. HSG C is classified as having high runoff potential and low infiltration rates.

Please refer to Appendix B for Boring Logs.

HYDROLOGIC ANALYSIS

The hydrologic analysis was performed using the HydroCAD computer program. The HydroCAD model is based on the Natural Resources Conservation Service (NRCS) Technical Release 20 (TR-20) Model for Project Formulation Hydrology. Runoff coefficients for the existing and proposed development conditions, as shown below in Tables 1 and 2 respectively, were determined using NRCS Technical Release 55 (TR-55) methodology as provided in HydroCAD. Rainfall volumes used for this analysis are based on the NRCS Type III, 24-hour storm event for Norfolk and Suffolk Counties.

Existing Conditions

Under existing conditions, the Site is slopes gently to the east towards Sunnyside Avenue. The surface consists of the existing building, pavement, and some landscape area. Runoff from the existing Site flows overland toward Sunnyside Avenue where it is collected within the municipal sewer system. Figure 1 illustrates the existing drainage patterns on the Site.

Currently, the Site is one (1) drainage area and stormwater runoff flows to one (1) design point, which has been identified as the 8" PVC Sewer Main in Sunnyside Avenue. Descriptions of the existing drainage areas are listed below:

- Drainage Area 1S is a 16,500 square foot area that is comprised of the entire Site. The area includes the building roof, a paved parking area, and landscape. Stormwater runoff from this drainage area flows overland and untreated directly into the catch basins in Sunnyside Ave that connect to the 8" sanitary sewer.

Table 1 below provides a summary of the existing conditions hydrologic data:

Table 1: Existing Conditions Hydrologic Data

Drainage Area	Discharge Location	Design Point	Area (sq.ft.)	Curve Number	Time of Concentration (min.)
EX: 1S	8" Sewer	1	16,500	96	6.0

Proposed Conditions

In the proposed condition, previously untreated runoff from the Site will be directed to new control measures to provide the required water quality treatment. The proposed Site layout will direct runoff to drainage structures within the paved driveway. The Project will result in a decrease in impervious area. Figure 2 illustrates the proposed post construction drainage conditions for the Site.

In the proposed condition, the Site will be divided into three (3) drainage areas that discharge treated stormwater to the one (1) existing design point. Descriptions of the proposed drainage areas are listed below:

- Drainage Area 1S is a 11,728 square foot area including the residential building roof, a portion of the office building roof, the paved driveway, and landscape area. This area is collected by catch basins, or roof drain, and routed through the infiltration trench. Overflow discharges to the 8" sanitary sewer in Sunnyside Ave.
- Drainage Area 2S is a 310 square foot area that represents uncovered permeable paver areas. Pavers are to be set on a stone base capable of capturing and infiltrating the 100 year storm.
- Drainage Area 3S is a 4,462 square foot area that includes a portion of the office building roof, paved and unpaved areas that is not practical to route to the infiltration trench. Runoff from this area flows into a catch basin in Sunnyside Ave that connects to the 8" sanitary sewer.

Table 2 below provides a summary of the proposed conditions hydrologic data:

Table 2: Proposed Conditions Hydrologic Data

Drainage Area	Discharge Location	Design Point	Area (sq.ft.)	Curve Number	Time of Concentration (min.)
PR: 1S	8" Sewer	I	11,728	97	6.0
PR: 2S	8" Sewer	I	310	98	6.0
PR: 3S	8" Sewer	I	4,462	95	6.0

Please refer to Appendix A for detailed printouts of the HydroCAD analysis. Hydrologic results are summarized in the Regulatory Compliance section of this report.

WATER QUALITY

The site is not located in a protect surface or groundwater area. Therefore, the proposed stormwater management system has been designed to treat the ½" Water Quality Volume while meeting the 80% TSS removal standard, to the extent practicable, prior to discharging to the municipal system.

Stormwater runoff from the proposed drive aisle, exterior parking spaces, and a portion of the Office Building roof will be collected in a deep sump catch basin and routed through an infiltration trench (StormTech SC-740). Runoff from the Residential Building roof will be collected and piped directly into the infiltration trench.

Source Control

A comprehensive source control program will be implemented at the Site, which includes routine inspection and maintenance of the stormwater management system. Further discussion of the Site maintenance is included in the Regulatory Compliance section.

Management of Snow and Ice

A private contractor will be hired to remove snow and discard off site.

Water Quality Control Measures

The proposed stormwater management system implements a treatment train of Best Management Practices (BMPs) that has been designed to provide 80% TSS (total suspended solids) removal for stormwater runoff from the proposed parking lots and drive aisles. TSS removal is proposed to be obtained by deep sump, hooded catch basins and infiltration. Calculations for the provided TSS removal are provided in Appendix C.

Stormwater Recharge

Stormwater recharge for the proposed redevelopment is provided through the infiltration of pavement and roof runoff. Runoff from 71% of the site is collected and routed to the infiltration system which is comprised of 4 StormTech SC-740 chambers.

HYDRAULIC ANALYSIS

The onsite closed pipe drainage system has been designed for the 25-year storm event in accordance with the Town of Arlington requirements. The drainage pipes were sized using the direct step method based on Manning's Equation for full-flow capacity and the NRCS TR-20 and TR-55 methodology to determine the corresponding runoff for the 25-year Type III 24-hour storm event for Suffolk County. Calculations for pipe sizing are included in Appendix F.

CONCLUSION

The stormwater management plan presented herein and as shown on the Site Plans has been prepared in accordance with applicable local, state, and federal regulations. The design includes Best Management Practices for maintaining stormwater runoff quality both during and after construction, and is designed to protect downstream and underlying receiving waters from stormwater related impacts. The redevelopment Project will result in an improvement of stormwater runoff quality and quantity.

REGULATORY COMPLIANCE

MASSACHUSETTS DEPARTMENT OF ENVIRONMENTAL PROTECTION (MASSDEP) STORMWATER MANAGEMENT STANDARDS

As demonstrated below, the Project complies with the MassDEP Stormwater Management Standards for a redevelopment project.

Standard 1

No new stormwater conveyances may discharge untreated stormwater directly to or cause erosion in wetlands or waters of the Commonwealth.

The redevelopment Project has been designed to fully comply with Standard 1.

No new untreated stormwater discharges are proposed under the redevelopment. All proposed stormwater conveyances for the Project will not cause erosion or scour to wetlands or receiving waters.

The Best Management Practices (BMPs) included in the proposed stormwater management system have been designed in accordance with the Massachusetts Stormwater Handbook. Supporting information and computations demonstrating that no new untreated discharges will result from the Project are presented below as part of Standards 4 through 6.

Standard 2

Stormwater management systems shall be designed so that post-development peak discharge rates do not exceed pre-development peak discharge rates. This Standard may be waived for discharges to land subject to coastal storm flowage as defined in 310 CMR 10.04.

The redevelopment Project has been designed to fully comply with Standard 2.

The rainfall-runoff response of the Site under existing and proposed conditions was analyzed for storm events with recurrence intervals of 2, 10, 25, and 100 years, per the Town of Arlington Stormwater Management Regulations. Rainfall volumes used for this analysis were based on the NRCS Type III, 24-hour storm event for Middlesex County; they were 3.16, 4.77, 6.03, and 8.62 inches, respectively. The results of the analysis, as summarized in Table 3 below, indicate that the post-development discharge rates do not exceed the pre-development discharge rates. Due to the reduction in impervious area and proposed infiltration, the post-development discharge rates are less than the pre-development discharge rates for all storm events analyzed.

Table 3: Peak Discharge Rates (cubic feet per second)

Design Point	2-year	10-year	25-year	100-year
I: 8" Sewer Main				
Existing Conditions	1.01	1.55	1.98	2.85
Proposed Conditions	0.97	1.46	1.85	2.67

Additionally, stormwater volumes were analyzed for all storm events to ensure the Project will not cause any downstream flooding impacts. Again, due to the reduction in impervious area and proposed infiltration, the post-development stormwater volumes are less than the pre-development stormwater volumes for all storm events analyzed. Table 4 below summarizes the stormwater volume analysis.

Table 4: Stormwater Volume Analysis (cubic-feet)

Design Point	2-year	10-year	25-year	100-year
I: 8" Sewer Main				
Existing Conditions	3,726	5,918	7,641	11,192
Proposed Conditions	3,372	5,512	7,198	10,674

Please refer to Appendix A for detailed printouts of the HydroCAD analysis.

Standard 3

Loss of annual recharge to groundwater shall be eliminated or minimized through the use of infiltration measures including environmentally sensitive site design, low impact development techniques, stormwater best management practices, and good operation and maintenance. At a minimum, the annual recharge from the post-development site shall approximate the annual recharge from pre-development conditions based on soil type. This Standard is met when the stormwater management system is designed to infiltrate the required recharge volume as determined in accordance with the Massachusetts Stormwater Handbook.

The redevelopment Project has been designed to fully comply with Standard 3.

Stormwater recharge for the proposed redevelopment is provided through a reduction and conversion of impervious area to landscaping. Additionally, stormwater recharge is provided through a proposed infiltration trench. The Project proposes a net decrease in impervious surfaces on-site of approximately 258 square feet, which is an approximately 1.5% decrease from the existing condition. The decrease in impervious surfaces and the infiltration trench will greatly improve the post-development groundwater recharge from the pre-development condition.

Table 5 below summarizes the surface cover type areas for the Project.

Table 5: Surface Cover Type Areas (square feet)

Surface Cover Type	Existing	Proposed	Delta
Impervious Surfaces			
Building	5,399	11,848	+ 6449
Pavement	8,568	2,975	- 5593
Sidewalk	0	353	+ 353
Gravel	1467	0	- 1,467
Total Impervious	15,434	15,176	- 258
Open Space	1,066	1,324	+ 258

Standard 4

Stormwater management systems shall be designed to remove 80% of the average annual post-construction load of Total Suspended Solids (TSS). This Standard is met when:

- Suitable practices for source control and pollution prevention are identified in a long-term pollution prevention plan, and thereafter are implemented and maintained;*
- Structural stormwater best management practices are sized to capture the required water quality volume determined in accordance with the Massachusetts Stormwater Handbook; and*
- Pretreatment is provided in accordance with the Massachusetts Stormwater Handbook.*

The redevelopment Project has been designed to comply with Standard 4 to the extent practical.

The proposed stormwater management system implements a treatment train of BMPs that has been designed to provide 85% TSS removal for stormwater runoff from the proposed drive aisle and parking spaces, as well as roof areas, representing 71% of the total site area.

Due to site grading limitations, some impervious areas cannot be treated in a practical manner. A 300 sf area of paved parking flows across a 65ft long grass strip before reaching permeable pavers where runoff can infiltrate. Other isolated areas, such as the concrete pavement between the front of the Office Building and the back of the public sidewalk are not practical to collect and treat.

Please refer to Appendix C for computations and supporting information regarding water quality.

Standard 5

For land uses with higher potential pollutant loads, source control and pollution prevention shall be implemented in accordance with the Massachusetts Stormwater Handbook to eliminate or reduce the discharge of stormwater runoff from such land uses to the maximum extent practicable. If through source control and/or pollution prevention all land uses with higher potential pollutant loads cannot be completely protected from exposure to rain, snow, snow melt, and stormwater runoff, the proponent shall use the specific structural stormwater BMPs determined by the Department to be suitable for such uses as provided in the Massachusetts Stormwater Handbook. Stormwater discharges from land uses with higher potential pollutant loads shall also comply with the requirements of the Massachusetts Clean Waters Act, M.G.L. c. 21, §§ 26-53 and the regulations promulgated thereunder at 314 CMR 3.00, 314 CMR 4.00 and 314 CMR 5.00.

The redevelopment Project will not generate more than 1,000 vehicle trips per day and therefore is not

considered a land use with higher potential pollutant loads (LUHPPL).

Standard 6

Stormwater discharges within the Zone II or Interim Wellhead Protection Area of a public water supply, and stormwater discharges near or to any other critical area, require the use of the specific source control and pollution prevention measures and the specific structural stormwater best management practices determined by the Department to be suitable for managing discharges to such areas, as provided in the Massachusetts Stormwater Handbook. A discharge is near a critical area if there is a strong likelihood of a significant impact occurring to said area, taking into account site-specific factors. Stormwater discharges to Outstanding Resource Waters and Special Resource Waters shall be removed and set back from the receiving water or wetland and receive the highest and best practical method of treatment. A "storm water discharge" as defined in 314 CMR 3.04(2)(a) I or (b) to an Outstanding Resource Water or Special Resource Water shall comply with 314 CMR 3.00 and 314 CMR 4.00. Stormwater discharges to a Zone I or Zone A are prohibited unless essential to the operation of a public water supply.

The redevelopment Project does not discharge to and is not located within a Zone II or Interim Wellhead Protection Area of a public water supply or near any other critical area.

Standard 7

A redevelopment project is required to meet the following Stormwater Management Standards only to the maximum extent practicable: Standard 2, Standard 3, and the pretreatment and structural best management practice requirements of Standards 4, 5, and 6. Existing stormwater discharges shall comply with Standard 1 only to the maximum extent practicable. A redevelopment project shall also comply with all other requirements of the Stormwater Management Standards and improve existing conditions.

The Project has been designed to fully comply with Standards 1-3 and 5-10.

Please refer directly to each Standard for demonstration of compliance and for applicable computations and supporting information.

Standard 8

A plan to control construction-related impacts including erosion, sedimentation and other pollutant sources during construction and land disturbance activities (construction period erosion, sedimentation, and pollution prevention plan) shall be developed and implemented.

The redevelopment Project will comply with Standard 8.

The Project will disturb less than one (1) acre of land and therefore is not required to obtain coverage under the Environmental Protection Agency (EPA) National Pollutant Discharge Elimination System (NPDES) Construction General Permit. In lieu of the Stormwater Pollution Prevention Plan (SWPPP) required under NPDES, a Construction Period Pollution Prevention and Erosion and Sedimentation Control Plan has been prepared and is included in Appendix D.

Standard 9

A long-term operation and maintenance plan shall be developed and implemented to ensure that stormwater management systems function as designed.

The redevelopment Project will comply with Standard 9.

A Stormwater Operation and Maintenance (O&M) Plan has been developed for the Project and is included in Appendix E.

Standard 10

All illicit discharges to the stormwater management system are prohibited.

The redevelopment Project will comply with Standard 10.

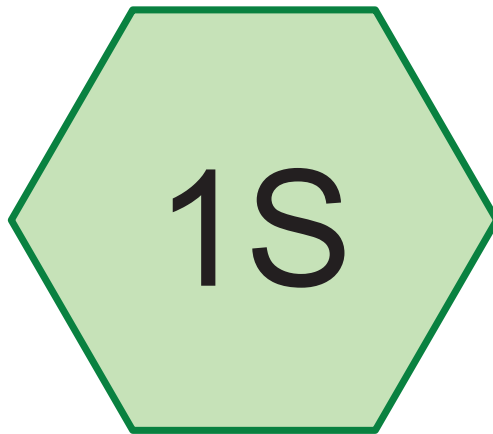
Sanitary sewer and storm drainage structures from prior development on this Site are to be completely removed during the site redevelopment. The Site Plans submitted with this report have been designed so that the components included therein are in full compliance with current standards. The Long-Term Pollution Prevention Plan has been provided along with the Stormwater Operation and Maintenance Plan to include measures for prevention of illicit discharges.

APPENDIX A

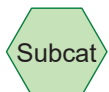
STANDARD 2 – SUPPORTING INFORMATION

Included in this section:

- HydroCAD Analysis
 - Existing Conditions Analysis
 - Proposed Conditions Analysis



1- Existing



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Rainfall Events Listing

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	2-Year	NRCC 24-hr	D	Default	24.00	1	3.16	2
2	10-Year	NRCC 24-hr	D	Default	24.00	1	4.77	2
3	25-Year	NRCC 24-hr	D	Default	24.00	1	6.03	2
4	100-Year	NRCC 24-hr	D	Default	24.00	1	8.62	2

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Area Listing (all nodes)

Area (sq-ft)	CN	Description (subcatchment-numbers)
1,066	74	>75% Grass cover, Good, HSG C (1S)
1,467	96	Gravel surface, HSG C (1S)
8,568	98	Paved parking, HSG C (1S)
5,399	98	Unconnected roofs, HSG C (1S)
16,500	96	TOTAL AREA

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Sunnyside Existing

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Ground Covers (all nodes)

HSG-A (sq-ft)	HSG-B (sq-ft)	HSG-C (sq-ft)	HSG-D (sq-ft)	Other (sq-ft)	Total (sq-ft)	Ground Cover	Sub Num
0	0	1,066	0	0	1,066	>75% Grass cover, Good	
0	0	1,467	0	0	1,467	Gravel surface	
0	0	8,568	0	0	8,568	Paved parking	
0	0	5,399	0	0	5,399	Unconnected roofs	
0	0	16,500	0	0	16,500	TOTAL AREA	

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Sunnyside Existing
NRCC 24-hr D 2-Year Rainfall=3.16"

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Time span=0.00-36.00 hrs, dt=0.05 hrs, 721 points

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN

Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1S: 1- Existing

Runoff Area=16,500 sf 84.65% Impervious Runoff Depth=2.71"

Tc=6.0 min CN=96 Runoff=1.01 cfs 3,726 cf

Total Runoff Area = 16,500 sf Runoff Volume = 3,726 cf Average Runoff Depth = 2.71"
15.35% Pervious = 2,533 sf 84.65% Impervious = 13,967 sf

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Sunnyside Existing
NRCC 24-hr D 2-Year Rainfall=3.16"

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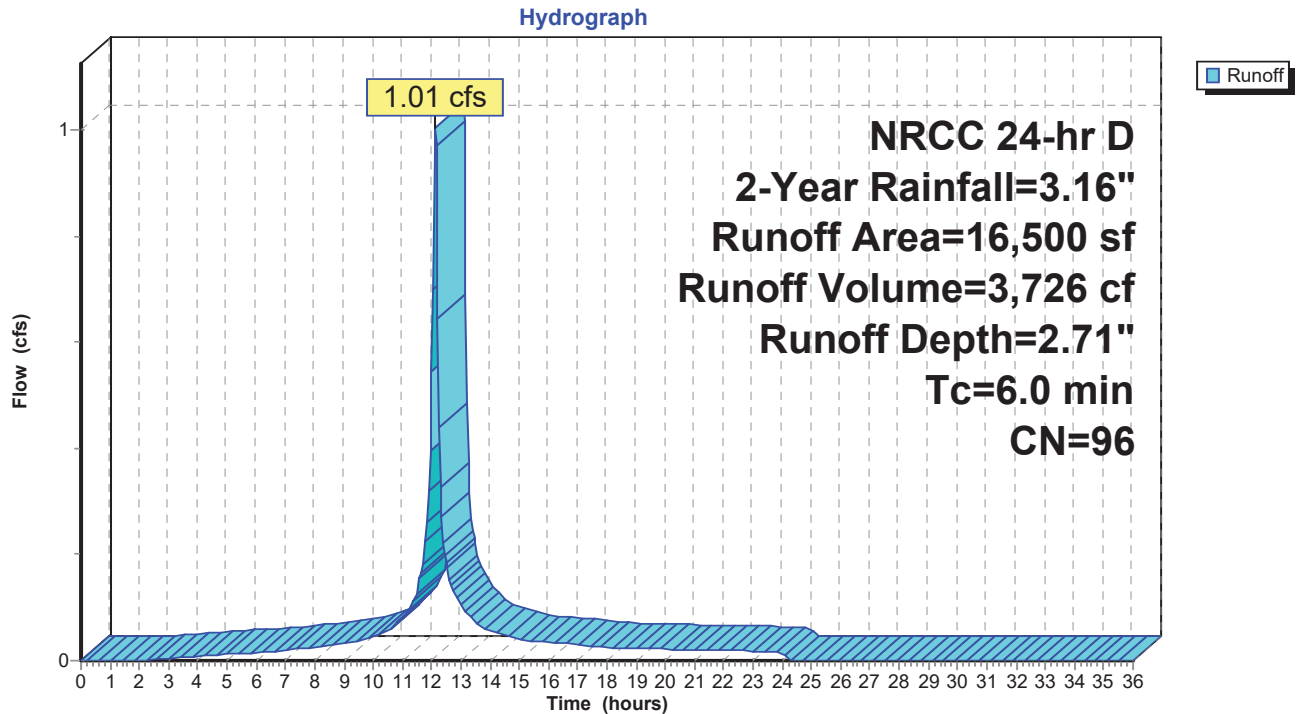
Summary for Subcatchment 1S: 1- Existing

Runoff = 1.01 cfs @ 12.13 hrs, Volume= 3,726 cf, Depth= 2.71"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
NRCC 24-hr D 2-Year Rainfall=3.16"

Area (sf)	CN	Description
5,399	98	Unconnected roofs, HSG C
8,568	98	Paved parking, HSG C
1,467	96	Gravel surface, HSG C
1,066	74	>75% Grass cover, Good, HSG C
16,500	96	Weighted Average
2,533		15.35% Pervious Area
13,967		84.65% Impervious Area
5,399		38.66% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, Direct Entry

Subcatchment 1S: 1- Existing

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Sunnyside Existing
NRCC 24-hr D 10-Year Rainfall=4.77"

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Time span=0.00-36.00 hrs, dt=0.05 hrs, 721 points

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN

Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1S: 1- Existing

Runoff Area=16,500 sf 84.65% Impervious Runoff Depth=4.30"

Tc=6.0 min CN=96 Runoff=1.55 cfs 5,918 cf

Total Runoff Area = 16,500 sf Runoff Volume = 5,918 cf Average Runoff Depth = 4.30"
15.35% Pervious = 2,533 sf 84.65% Impervious = 13,967 sf

1620000049 EX

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Sunnyside Existing
NRCC 24-hr D 10-Year Rainfall=4.77"

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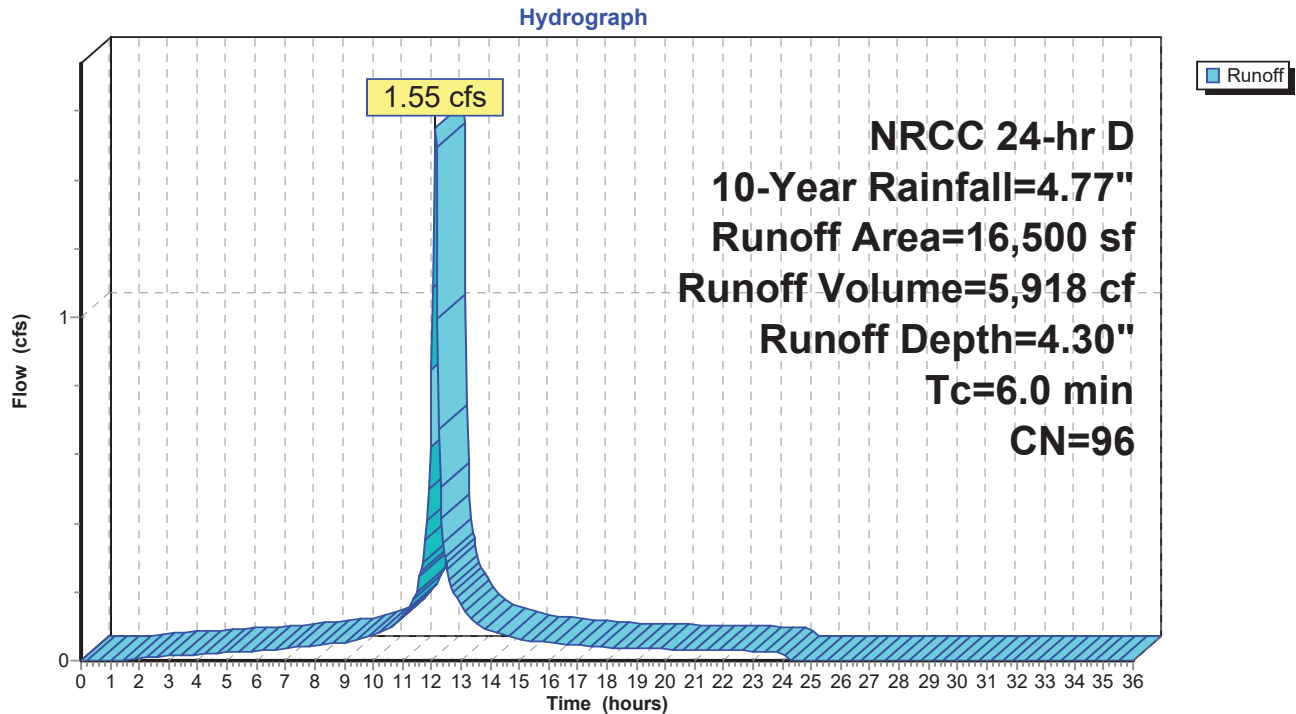
Summary for Subcatchment 1S: 1- Existing

Runoff = 1.55 cfs @ 12.13 hrs, Volume= 5,918 cf, Depth= 4.30"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
NRCC 24-hr D 10-Year Rainfall=4.77"

Area (sf)	CN	Description
5,399	98	Unconnected roofs, HSG C
8,568	98	Paved parking, HSG C
1,467	96	Gravel surface, HSG C
1,066	74	>75% Grass cover, Good, HSG C
16,500	96	Weighted Average
2,533		15.35% Pervious Area
13,967		84.65% Impervious Area
5,399		38.66% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, Direct Entry

Subcatchment 1S: 1- Existing

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Sunnyside Existing
NRCC 24-hr D 25-Year Rainfall=6.03"

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Time span=0.00-36.00 hrs, dt=0.05 hrs, 721 points

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN

Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1S: 1- Existing

Runoff Area=16,500 sf 84.65% Impervious Runoff Depth=5.56"

Tc=6.0 min CN=96 Runoff=1.98 cfs 7,641 cf

Total Runoff Area = 16,500 sf Runoff Volume = 7,641 cf Average Runoff Depth = 5.56"
15.35% Pervious = 2,533 sf 84.65% Impervious = 13,967 sf

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Sunnyside Existing
NRCC 24-hr D 25-Year Rainfall=6.03"

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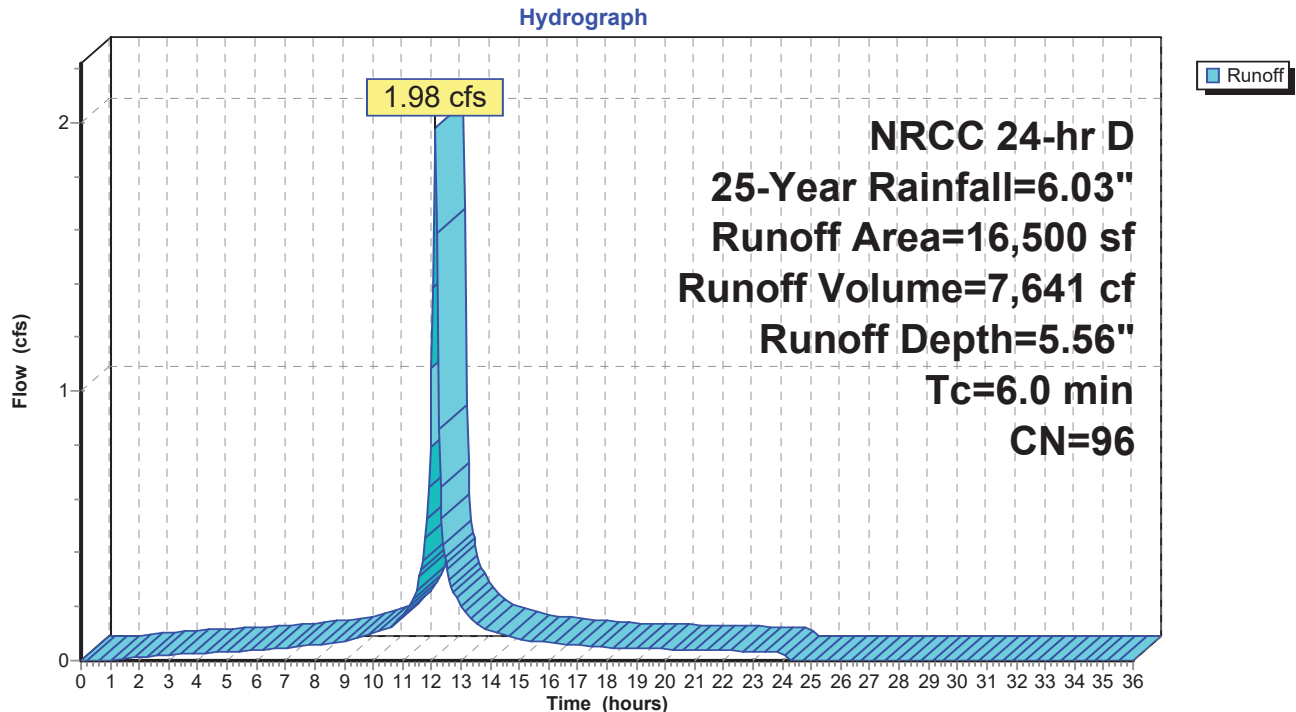
Summary for Subcatchment 1S: 1- Existing

Runoff = 1.98 cfs @ 12.13 hrs, Volume= 7,641 cf, Depth= 5.56"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
NRCC 24-hr D 25-Year Rainfall=6.03"

Area (sf)	CN	Description
5,399	98	Unconnected roofs, HSG C
8,568	98	Paved parking, HSG C
1,467	96	Gravel surface, HSG C
1,066	74	>75% Grass cover, Good, HSG C
16,500	96	Weighted Average
2,533		15.35% Pervious Area
13,967		84.65% Impervious Area
5,399		38.66% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, Direct Entry

Subcatchment 1S: 1- Existing

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Sunnyside Existing
NRCC 24-hr D 100-Year Rainfall=8.62"

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Time span=0.00-36.00 hrs, dt=0.05 hrs, 721 points

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN

Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: 1- Existing

Runoff Area=16,500 sf 84.65% Impervious Runoff Depth=8.14"

Tc=6.0 min CN=96 Runoff=2.85 cfs 11,192 cf

Total Runoff Area = 16,500 sf Runoff Volume = 11,192 cf Average Runoff Depth = 8.14"
15.35% Pervious = 2,533 sf 84.65% Impervious = 13,967 sf

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Sunnyside Existing
NRCC 24-hr D 100-Year Rainfall=8.62"

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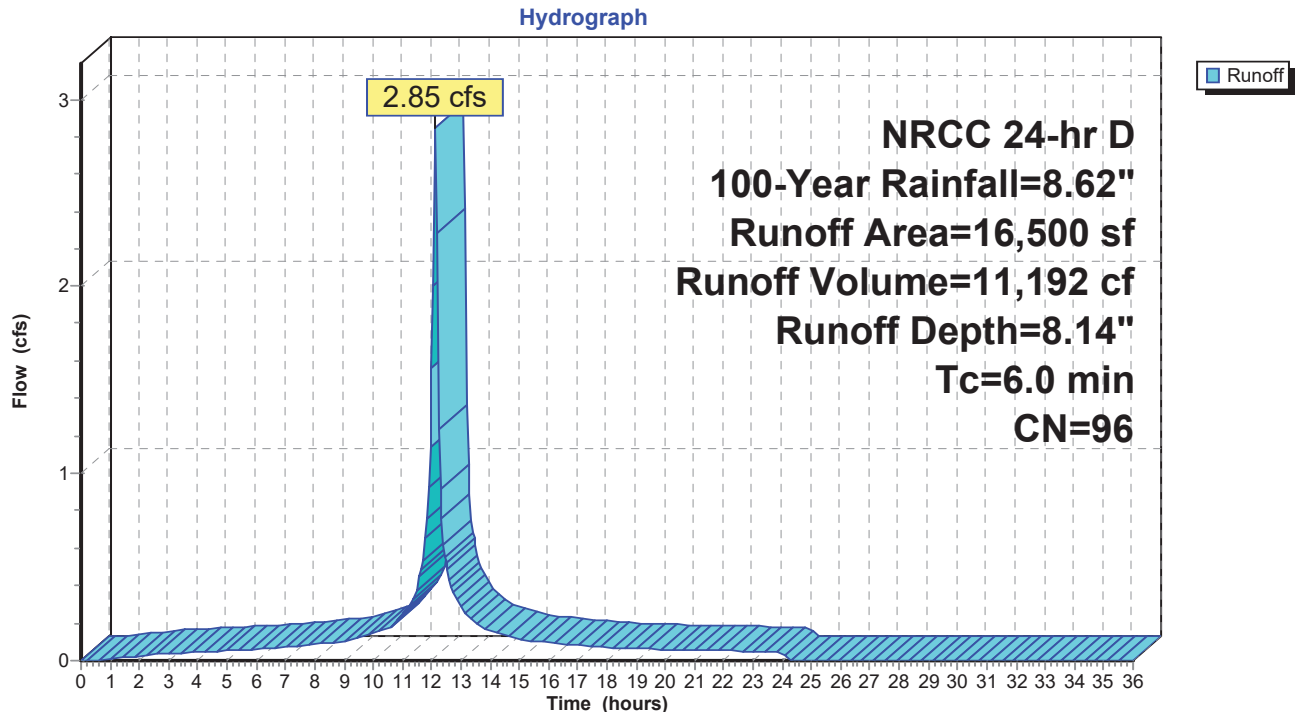
Summary for Subcatchment 1S: 1- Existing

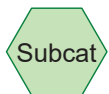
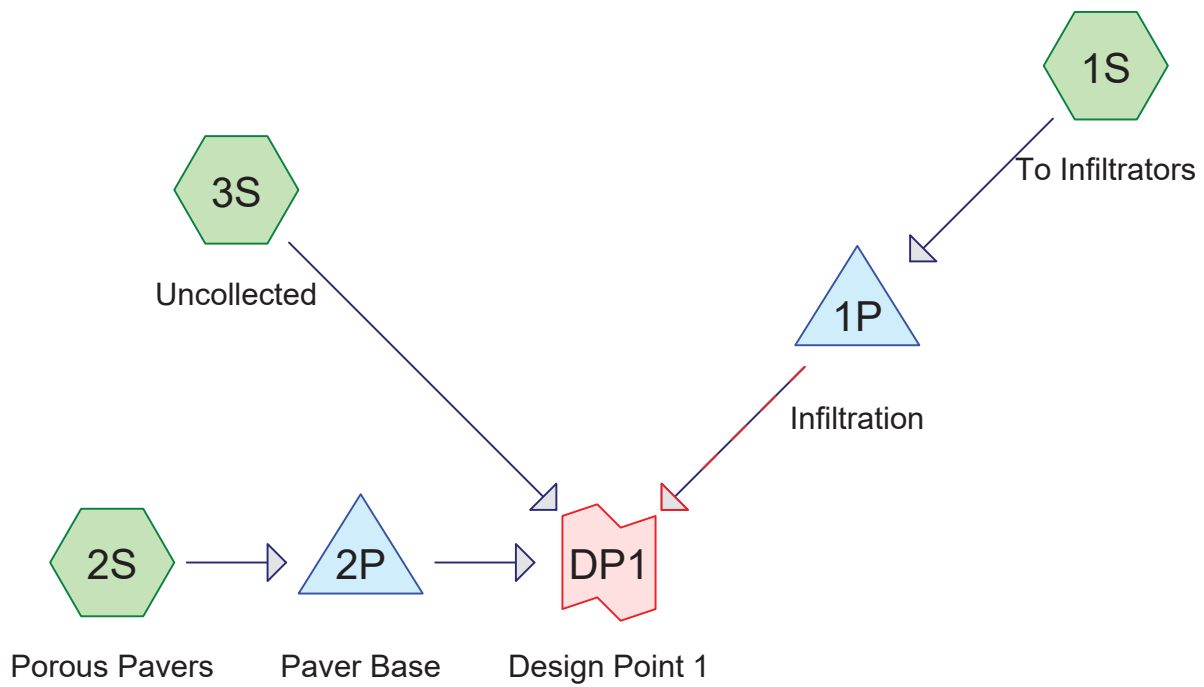
Runoff = 2.85 cfs @ 12.13 hrs, Volume= 11,192 cf, Depth= 8.14"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
NRCC 24-hr D 100-Year Rainfall=8.62"

Area (sf)	CN	Description
5,399	98	Unconnected roofs, HSG C
8,568	98	Paved parking, HSG C
1,467	96	Gravel surface, HSG C
1,066	74	>75% Grass cover, Good, HSG C
16,500	96	Weighted Average
2,533		15.35% Pervious Area
13,967		84.65% Impervious Area
5,399		38.66% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, Direct Entry

Subcatchment 1S: 1- Existing



Subcat



Reach



Pond



Link

Routing Diagram for 1620000049 PR
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Rainfall Events Listing

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	2-Year	NRCC 24-hr	D	Default	24.00	1	3.16	2
2	10-Year	NRCC 24-hr	D	Default	24.00	1	4.77	2
3	25-Year	NRCC 24-hr	D	Default	24.00	1	6.03	2
4	100-Year	NRCC 24-hr	D	Default	24.00	1	8.62	2

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Area Listing (all nodes)

Area (sq-ft)	CN	Description (subcatchment-numbers)
1,155	74	>75% Grass cover, Good, HSG C (1S, 3S)
260	98	Concrete Pavement (3S)
2,780	98	Office Roof (partial), HSG C (1S)
2,384	98	Paved parking, HSG C (1S)
310	98	Porous Pavement (2S)
5,973	98	Residential Roof, HSG C (1S)
330	98	Retaining wall (3S)
300	98	Unconnected pavement, HSG C (3S)
3,008	98	Unconnected roofs, HSG C (3S)
16,500	96	TOTAL AREA

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Ground Covers (all nodes)

HSG-A (sq-ft)	HSG-B (sq-ft)	HSG-C (sq-ft)	HSG-D (sq-ft)	Other (sq-ft)	Total (sq-ft)	Ground Cover	Sub Num
0	0	1,155	0	0	1,155	>75% Grass cover, Good	
0	0	0	0	260	260	Concrete Pavement	
0	0	2,780	0	0	2,780	Office Roof (partial)	
0	0	2,384	0	0	2,384	Paved parking	
0	0	0	0	310	310	Porous Pavment	
0	0	5,973	0	0	5,973	Residential Roof	
0	0	0	0	330	330	Retaining wall	
0	0	300	0	0	300	Unconnected pavement	
0	0	3,008	0	0	3,008	Unconnected roofs	
0	0	15,600	0	900	16,500	TOTAL AREA	

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Sunnyside Proposed
NRCC 24-hr D 2-Year Rainfall=3.16"

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Time span=0.00-36.00 hrs, dt=0.05 hrs, 721 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1S: To Infiltrators

Runoff Area=11,728 sf 94.96% Impervious Runoff Depth=2.82"
Tc=6.0 min CN=97 Runoff=0.73 cfs 2,753 cf

Subcatchment2S: Porous Pavers

Runoff Area=310 sf 100.00% Impervious Runoff Depth=2.93"
Tc=6.0 min CN=98 Runoff=0.02 cfs 76 cf

Subcatchment3S: Uncollected

Runoff Area=4,462 sf 87.36% Impervious Runoff Depth=2.61"
Tc=6.0 min CN=95 Runoff=0.27 cfs 969 cf

Pond 1P: Infiltration

Peak Elev=10.06' Storage=168 cf Inflow=0.73 cfs 2,753 cf
Discarded=0.00 cfs 286 cf Primary=0.71 cfs 2,455 cf Outflow=0.71 cfs 2,741 cf

Pond 2P: Paver Base

Peak Elev=12.98' Storage=22 cf Inflow=0.02 cfs 76 cf
Discarded=0.00 cfs 76 cf Primary=0.00 cfs 0 cf Outflow=0.00 cfs 76 cf

Link DP1: Design Point 1

Inflow=0.97 cfs 3,424 cf
Primary=0.97 cfs 3,424 cf

Total Runoff Area = 16,500 sf Runoff Volume = 3,798 cf Average Runoff Depth = 2.76"
7.00% Pervious = 1,155 sf 93.00% Impervious = 15,345 sf

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Sunnyside Proposed
NRCC 24-hr D 2-Year Rainfall=3.16"

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Summary for Subcatchment 1S: To Infiltrators

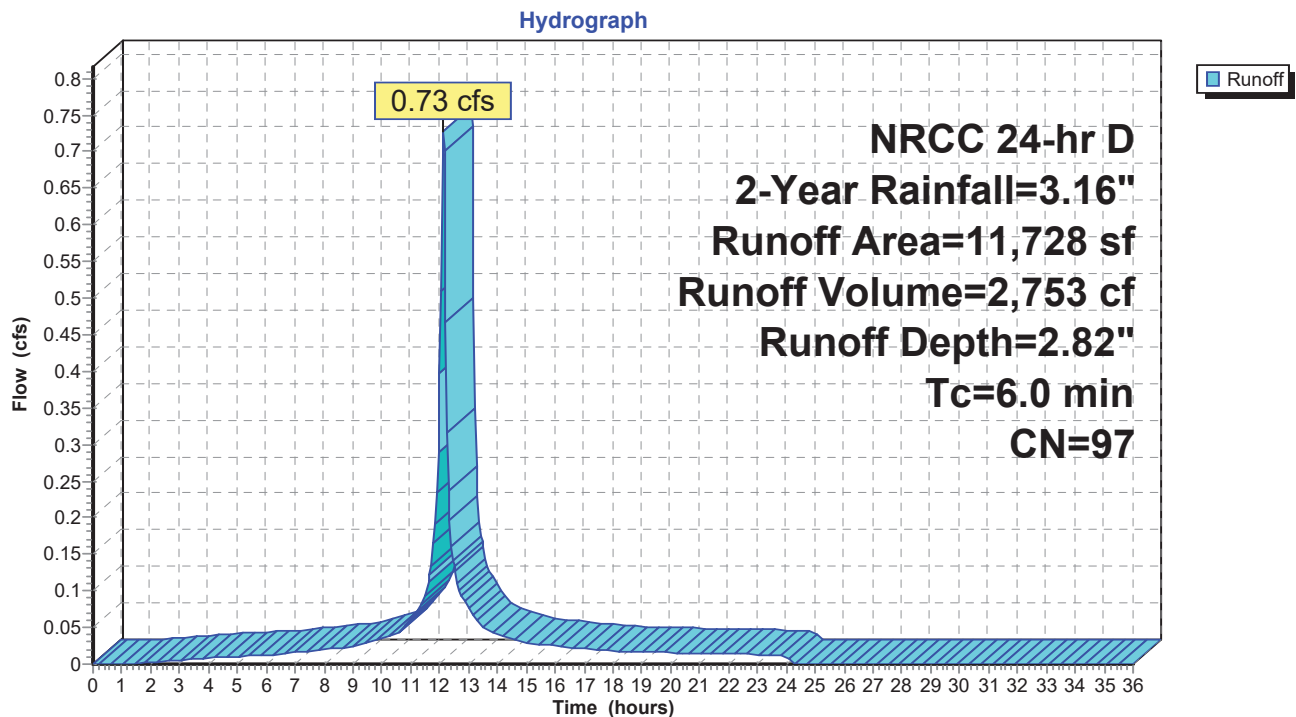
Runoff = 0.73 cfs @ 12.13 hrs, Volume= 2,753 cf, Depth= 2.82"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
NRCC 24-hr D 2-Year Rainfall=3.16"

	Area (sf)	CN	Description
*	5,973	98	Residential Roof, HSG C
*	2,780	98	Office Roof (partial), HSG C
	2,384	98	Paved parking, HSG C
	591	74	>75% Grass cover, Good, HSG C
	11,728	97	Weighted Average
	591		5.04% Pervious Area
	11,137		94.96% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, Direct Entry

Subcatchment 1S: To Infiltrators



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NRCC 24-hr D 2-Year Rainfall=3.16"

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Summary for Subcatchment 2S: Porous Pavers

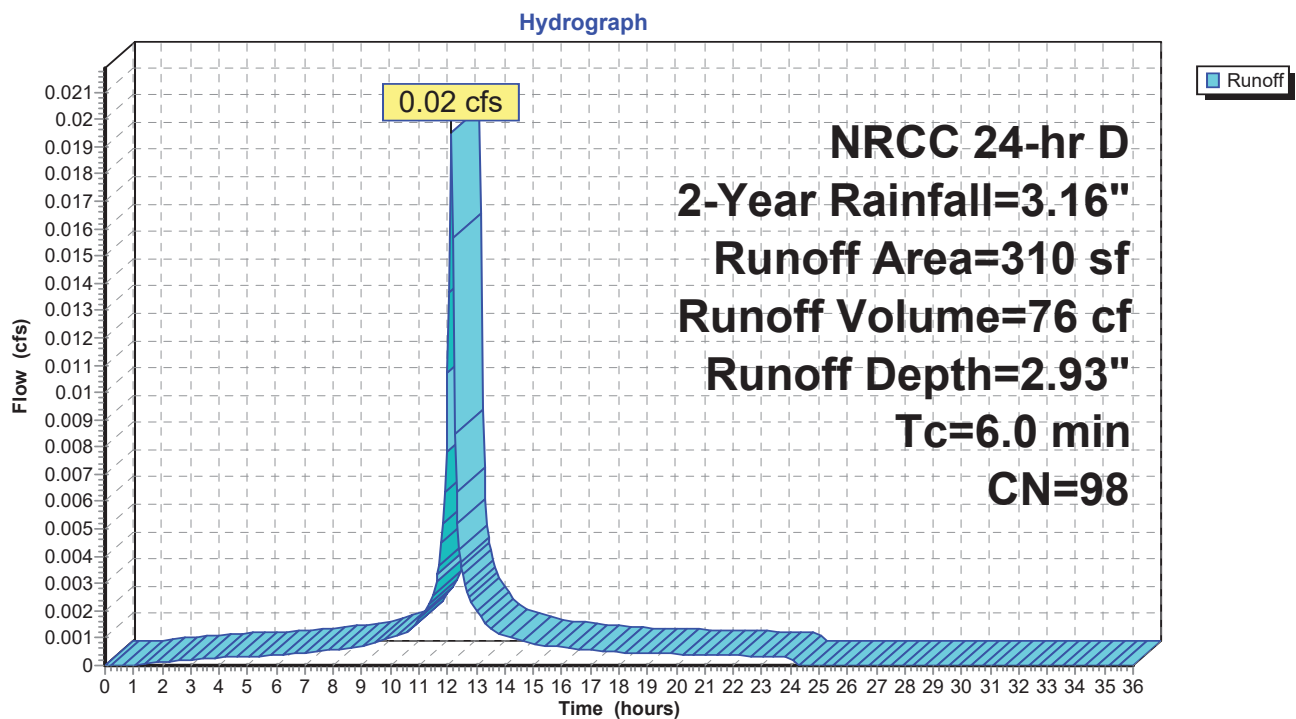
Runoff = 0.02 cfs @ 12.13 hrs, Volume= 76 cf, Depth= 2.93"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
NRCC 24-hr D 2-Year Rainfall=3.16"

	Area (sf)	CN	Description
*	310	98	Porous Pavment
	310		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, Direct Entry

Subcatchment 2S: Porous Pavers



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Sunnyside Proposed
NRCC 24-hr D 2-Year Rainfall=3.16"

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Summary for Subcatchment 3S: Uncollected

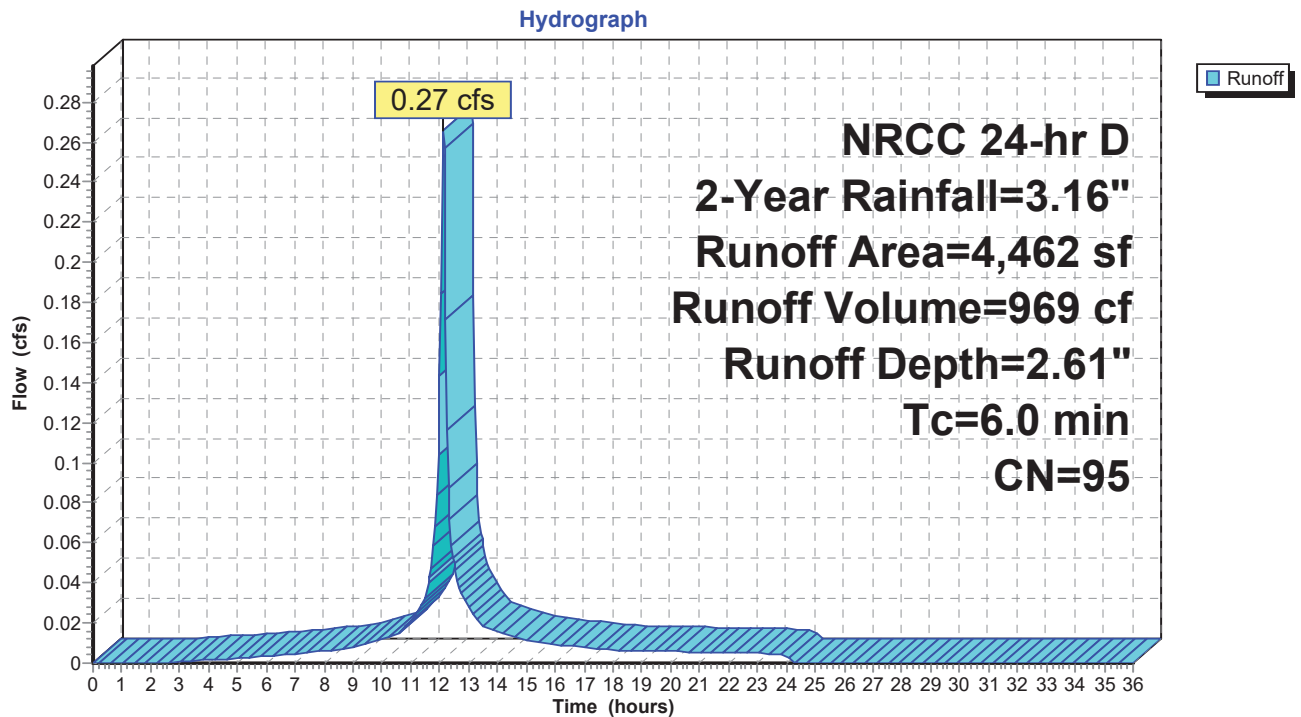
Runoff = 0.27 cfs @ 12.13 hrs, Volume= 969 cf, Depth= 2.61"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
NRCC 24-hr D 2-Year Rainfall=3.16"

	Area (sf)	CN	Description
	3,008	98	Unconnected roofs, HSG C
*	330	98	Retaining wall
*	260	98	Concrete Pavement
	300	98	Unconnected pavement, HSG C
	564	74	>75% Grass cover, Good, HSG C
	4,462	95	Weighted Average
	564		12.64% Pervious Area
	3,898		87.36% Impervious Area
	3,308		84.86% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, Direct Entry

Subcatchment 3S: Uncollected



Summary for Pond 1P: Infiltration

Inflow Area = 11,728 sf, 94.96% Impervious, Inflow Depth = 2.82" for 2-Year event
 Inflow = 0.73 cfs @ 12.13 hrs, Volume= 2,753 cf
 Outflow = 0.71 cfs @ 12.14 hrs, Volume= 2,741 cf, Atten= 3%, Lag= 1.1 min
 Discarded = 0.00 cfs @ 12.14 hrs, Volume= 286 cf
 Primary = 0.71 cfs @ 12.14 hrs, Volume= 2,455 cf

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
 Peak Elev= 10.06' @ 12.14 hrs Surf.Area= 201 sf Storage= 168 cf

Plug-Flow detention time= 56.6 min calculated for 2,741 cf (100% of inflow)
 Center-of-Mass det. time= 53.8 min (826.3 - 772.5)

Volume	Invert	Avail.Storage	Storage Description
#1A	8.50'	156 cf	6.25'W x 32.10'L x 3.50'H Field A 702 cf Overall - 184 cf Embedded = 518 cf x 30.0% Voids
#2A	9.00'	184 cf	ADS_StormTech SC-740 +Cap x 4 Inside #1 Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap
		339 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Discarded	8.50'	0.270 in/hr Exfiltration over Surface area Conductivity to Groundwater Elevation = 7.50'
#2	Primary	9.50'	8.0" Round Overflow L= 34.0' CPP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 9.50' / 8.82' S= 0.0200 ' / Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.35 sf

Discarded OutFlow Max=0.00 cfs @ 12.14 hrs HW=10.06' (Free Discharge)

↑**1=Exfiltration** (Controls 0.00 cfs)

Primary OutFlow Max=0.70 cfs @ 12.14 hrs HW=10.06' (Free Discharge)

↑**2=Overflow** (Inlet Controls 0.70 cfs @ 2.24 fps)

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Sunnyside Proposed
NRCC 24-hr D 2-Year Rainfall=3.16"

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Pond 1P: Infiltration - Chamber Wizard Field A

Chamber Model = ADS_StormTech SC-740 +Cap (ADS StormTech® SC-740 with cap length)

Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf

Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap

4 Chambers/Row x 7.12' Long +0.81' Cap Length x 2 = 30.10' Row Length +12.0" End Stone x 2 = 32.10' Base Length

1 Rows x 51.0" Wide + 12.0" Side Stone x 2 = 6.25' Base Width

6.0" Stone Base + 30.0" Chamber Height + 6.0" Stone Cover = 3.50' Field Height

4 Chambers x 45.9 cf = 183.8 cf Chamber Storage

702.1 cf Field - 183.8 cf Chambers = 518.4 cf Stone x 30.0% Voids = 155.5 cf Stone Storage

Chamber Storage + Stone Storage = 339.3 cf = 0.008 af

Overall Storage Efficiency = 48.3%

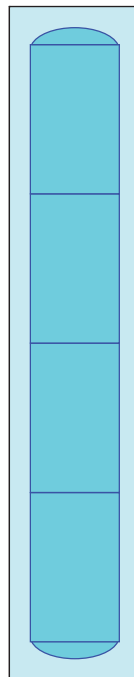
Overall System Size = 32.10' x 6.25' x 3.50'

4 Chambers @ \$ 300.00 /ea = \$ 1,200.00

26.0 cy Field Excavation @ \$ 30.00 /cy = \$ 780.13

19.2 cy Stone @ \$ 30.00 /cy = \$ 575.95

Total Cost = \$ 2,556.08



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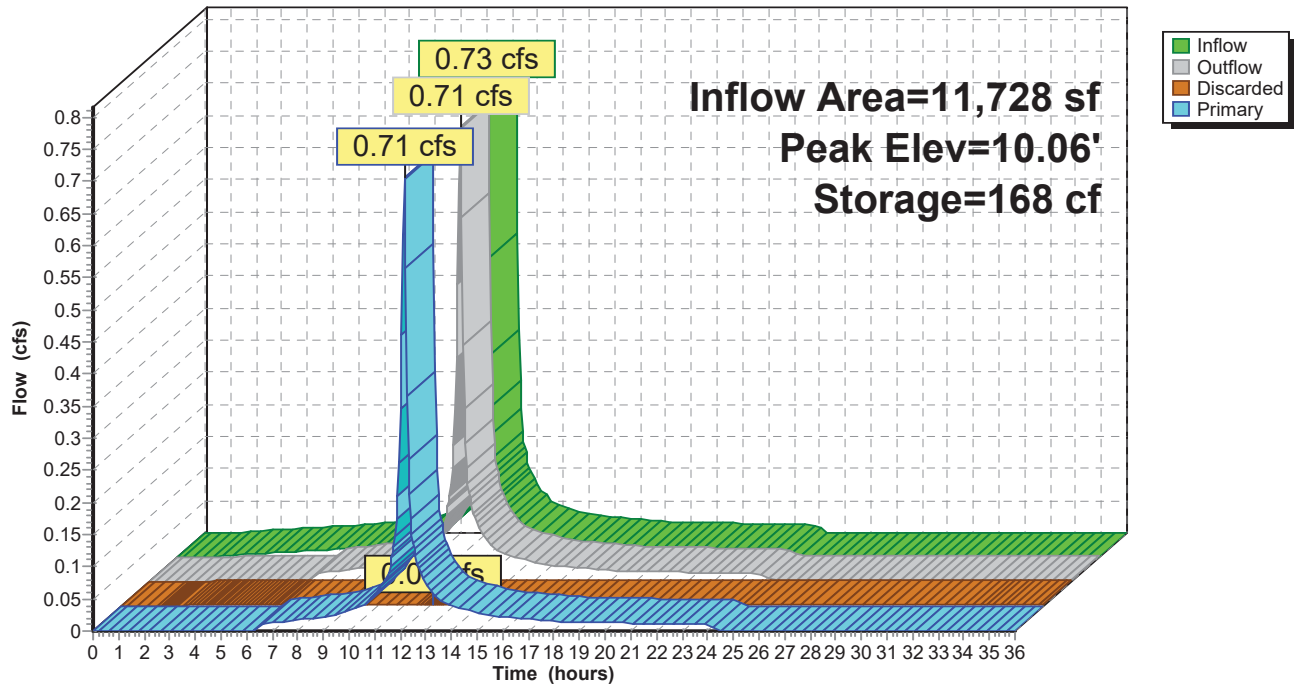
Sunnyside Proposed
NRCC 24-hr D 2-Year Rainfall=3.16"

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Pond 1P: Infiltration

Hydrograph



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NRCC 24-hr D 2-Year Rainfall=3.16"

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Summary for Pond 2P: Paver Base

Inflow Area = 310 sf, 100.00% Impervious, Inflow Depth = 2.93" for 2-Year event
Inflow = 0.02 cfs @ 12.13 hrs, Volume= 76 cf
Outflow = 0.00 cfs @ 13.00 hrs, Volume= 76 cf, Atten= 90%, Lag= 52.2 min
Discarded = 0.00 cfs @ 13.00 hrs, Volume= 76 cf
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Peak Elev= 12.98' @ 13.00 hrs Surf.Area= 310 sf Storage= 22 cf

Plug-Flow detention time= 70.3 min calculated for 76 cf (100% of inflow)
Center-of-Mass det. time= 70.3 min (831.0 - 760.7)

Volume	Invert	Avail.Storage	Storage Description
#1	12.75'	116 cf	Stone storage (Prismatic) Listed below (Recalc) 388 cf Overall x 30.0% Voids

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
12.75	310	0	0
14.00	310	388	388

Device	Routing	Invert	Outlet Devices
#0	Primary	14.00'	Automatic Storage Overflow (Discharged without head)
#1	Discarded	12.75'	0.270 in/hr Exfiltration over Surface area Conductivity to Groundwater Elevation = 7.50'

Discarded OutFlow Max=0.00 cfs @ 13.00 hrs HW=12.98' (Free Discharge)
↑**1=Exfiltration** (Controls 0.00 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=12.75' (Free Discharge)

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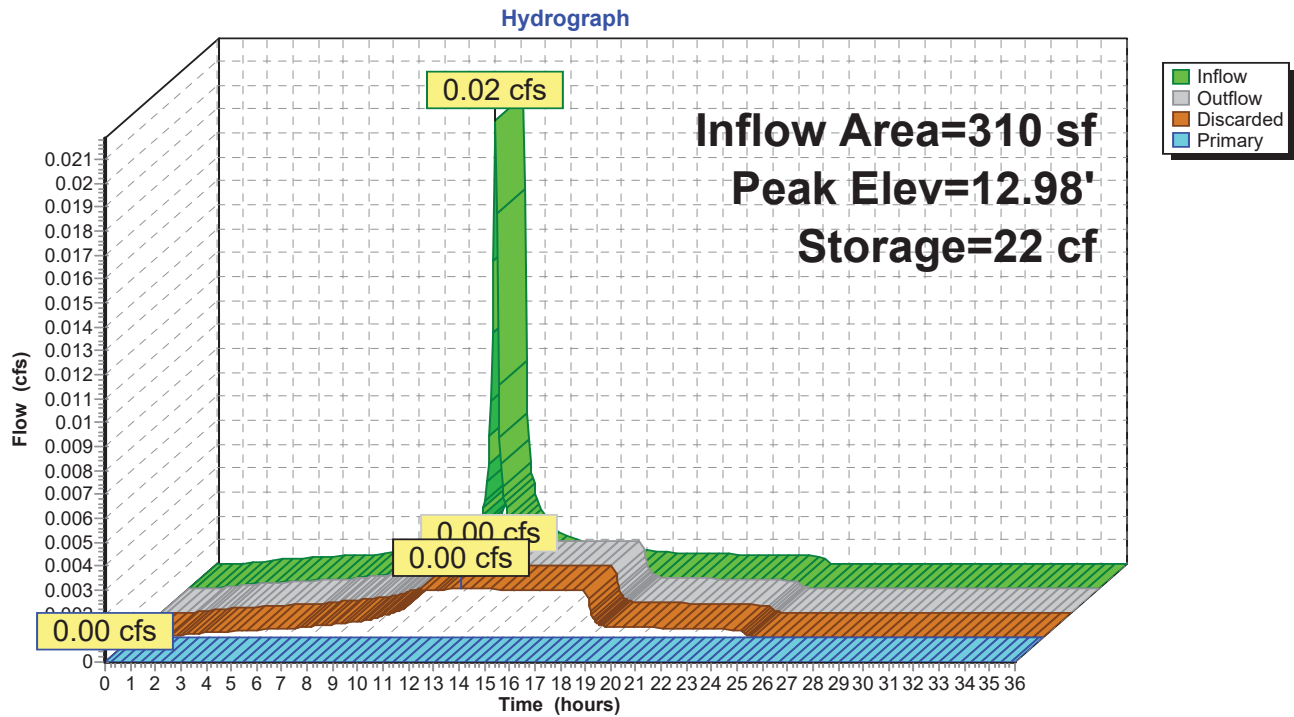
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Sunnyside Proposed
NRCC 24-hr D 2-Year Rainfall=3.16"

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Pond 2P: Paver Base



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Sunnyside Proposed

NRCC 24-hr D 2-Year Rainfall=3.16"

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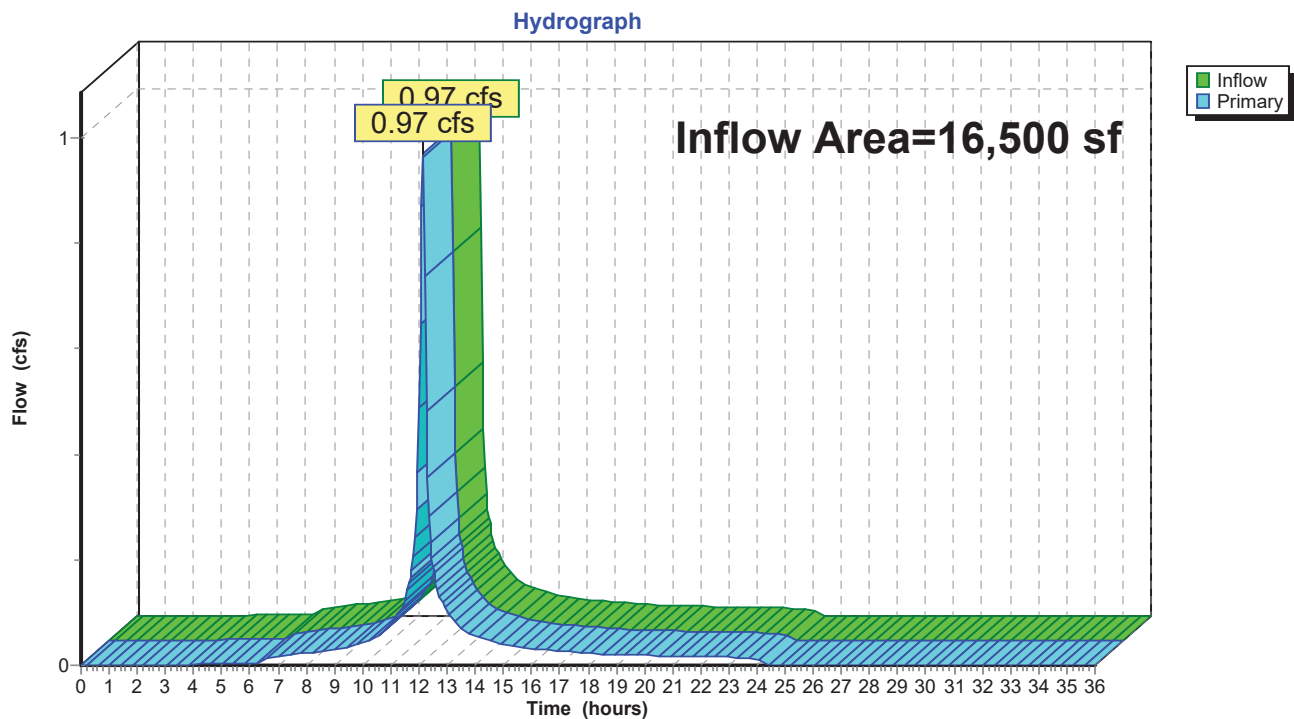
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Summary for Link DP1: Design Point 1

Inflow Area = 16,500 sf, 93.00% Impervious, Inflow Depth = 2.49" for 2-Year event
Inflow = 0.97 cfs @ 12.14 hrs, Volume= 3,424 cf
Primary = 0.97 cfs @ 12.14 hrs, Volume= 3,424 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Link DP1: Design Point 1



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Sunnyside Proposed
NRCC 24-hr D 10-Year Rainfall=4.77"

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Time span=0.00-36.00 hrs, dt=0.05 hrs, 721 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1S: To Infiltrators

Runoff Area=11,728 sf 94.96% Impervious Runoff Depth=4.42"
Tc=6.0 min CN=97 Runoff=1.12 cfs 4,318 cf

Subcatchment2S: Porous Pavers

Runoff Area=310 sf 100.00% Impervious Runoff Depth=4.53"
Tc=6.0 min CN=98 Runoff=0.03 cfs 117 cf

Subcatchment3S: Uncollected

Runoff Area=4,462 sf 87.36% Impervious Runoff Depth=4.19"
Tc=6.0 min CN=95 Runoff=0.42 cfs 1,559 cf

Pond 1P: Infiltration

Peak Elev=10.34' Storage=201 cf Inflow=1.12 cfs 4,318 cf
Discarded=0.00 cfs 298 cf Primary=1.05 cfs 4,008 cf Outflow=1.06 cfs 4,306 cf

Pond 2P: Paver Base

Peak Elev=13.19' Storage=40 cf Inflow=0.03 cfs 117 cf
Discarded=0.00 cfs 117 cf Primary=0.00 cfs 0 cf Outflow=0.00 cfs 117 cf

Link DP1: Design Point 1

Inflow=1.46 cfs 5,566 cf
Primary=1.46 cfs 5,566 cf

Total Runoff Area = 16,500 sf Runoff Volume = 5,994 cf Average Runoff Depth = 4.36"
7.00% Pervious = 1,155 sf 93.00% Impervious = 15,345 sf

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Summary for Subcatchment 1S: To Infiltrators

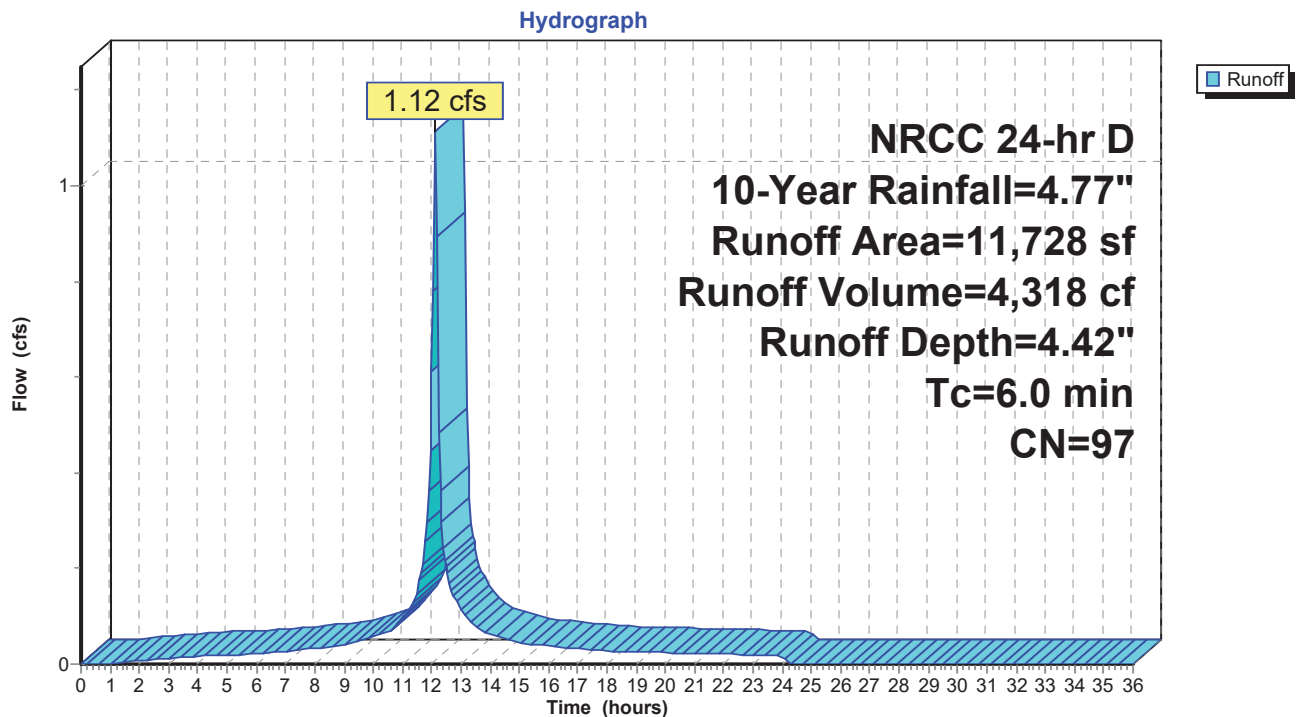
Runoff = 1.12 cfs @ 12.13 hrs, Volume= 4,318 cf, Depth= 4.42"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
NRCC 24-hr D 10-Year Rainfall=4.77"

	Area (sf)	CN	Description
*	5,973	98	Residential Roof, HSG C
*	2,780	98	Office Roof (partial), HSG C
	2,384	98	Paved parking, HSG C
	591	74	>75% Grass cover, Good, HSG C
	11,728	97	Weighted Average
	591		5.04% Pervious Area
	11,137		94.96% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, Direct Entry

Subcatchment 1S: To Infiltrators



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Summary for Subcatchment 2S: Porous Pavers

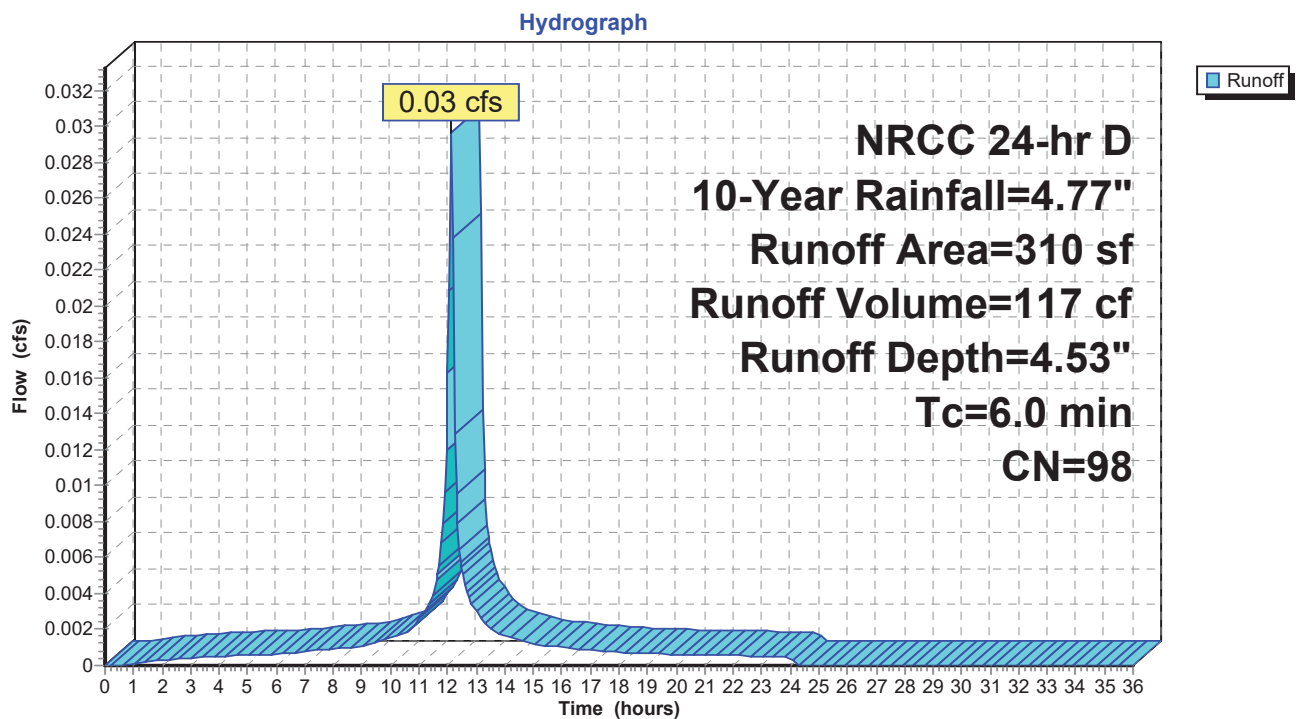
Runoff = 0.03 cfs @ 12.13 hrs, Volume= 117 cf, Depth= 4.53"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
NRCC 24-hr D 10-Year Rainfall=4.77"

	Area (sf)	CN	Description
*	310	98	Porous Pavment
	310		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, Direct Entry

Subcatchment 2S: Porous Pavers



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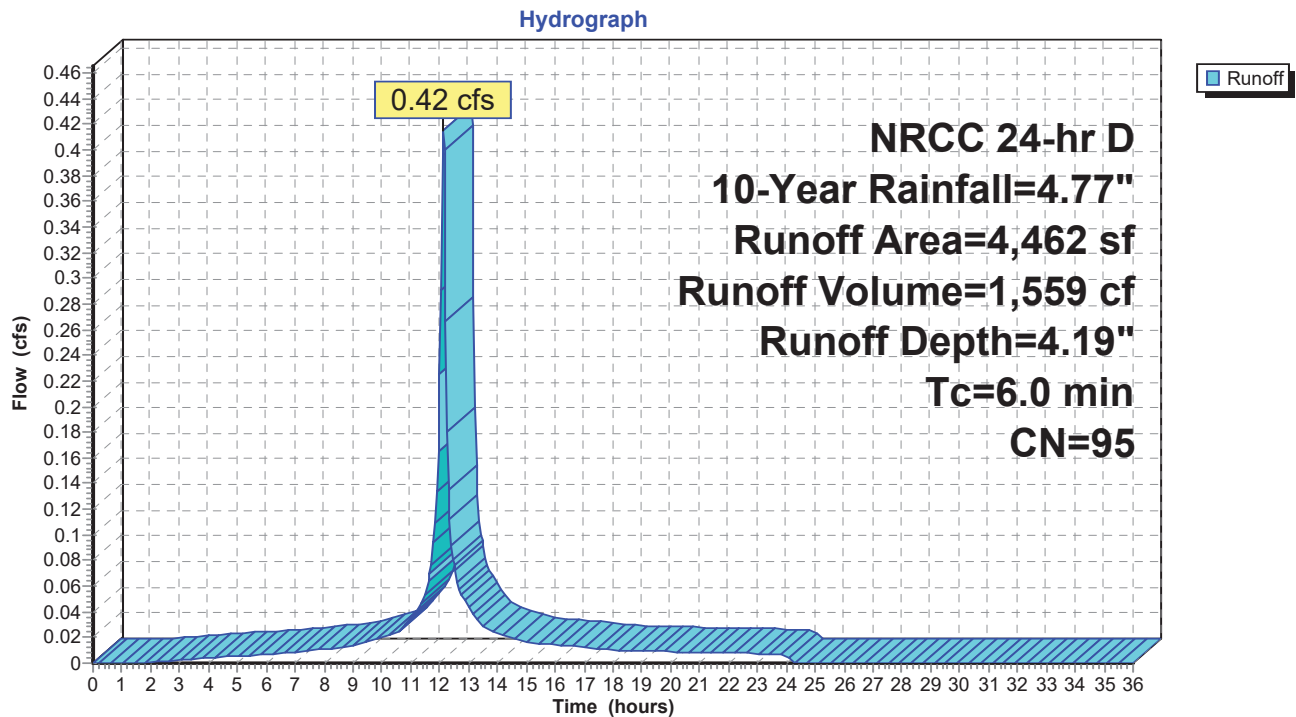
Summary for Subcatchment 3S: Uncollected

Runoff = 0.42 cfs @ 12.13 hrs, Volume= 1,559 cf, Depth= 4.19"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
NRCC 24-hr D 10-Year Rainfall=4.77"

	Area (sf)	CN	Description
	3,008	98	Unconnected roofs, HSG C
*	330	98	Retaining wall
*	260	98	Concrete Pavement
	300	98	Unconnected pavement, HSG C
	564	74	>75% Grass cover, Good, HSG C
	4,462	95	Weighted Average
	564		12.64% Pervious Area
	3,898		87.36% Impervious Area
	3,308		84.86% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, Direct Entry

Subcatchment 3S: Uncollected

Summary for Pond 1P: Infiltration

Inflow Area = 11,728 sf, 94.96% Impervious, Inflow Depth = 4.42" for 10-Year event
 Inflow = 1.12 cfs @ 12.13 hrs, Volume= 4,318 cf
 Outflow = 1.06 cfs @ 12.15 hrs, Volume= 4,306 cf, Atten= 5%, Lag= 1.3 min
 Discarded = 0.00 cfs @ 12.15 hrs, Volume= 298 cf
 Primary = 1.05 cfs @ 12.15 hrs, Volume= 4,008 cf

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
 Peak Elev= 10.34' @ 12.15 hrs Surf.Area= 201 sf Storage= 201 cf

Plug-Flow detention time= 39.2 min calculated for 4,306 cf (100% of inflow)
 Center-of-Mass det. time= 37.3 min (798.2 - 760.8)

Volume	Invert	Avail.Storage	Storage Description
#1A	8.50'	156 cf	6.25'W x 32.10'L x 3.50'H Field A 702 cf Overall - 184 cf Embedded = 518 cf x 30.0% Voids
#2A	9.00'	184 cf	ADS_StormTech SC-740 +Cap x 4 Inside #1 Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap
		339 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Discarded	8.50'	0.270 in/hr Exfiltration over Surface area Conductivity to Groundwater Elevation = 7.50'
#2	Primary	9.50'	8.0" Round Overflow L= 34.0' CPP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 9.50' / 8.82' S= 0.0200 ' S= 0.0200 ' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.35 sf

Discarded OutFlow Max=0.00 cfs @ 12.15 hrs HW=10.33' (Free Discharge)

↑**1=Exfiltration** (Controls 0.00 cfs)

Primary OutFlow Max=1.05 cfs @ 12.15 hrs HW=10.33' (Free Discharge)

↑**2=Overflow** (Inlet Controls 1.05 cfs @ 3.01 fps)

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Pond 1P: Infiltration - Chamber Wizard Field A

Chamber Model = ADS_StormTech SC-740 +Cap (ADS StormTech® SC-740 with cap length)

Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf

Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap

4 Chambers/Row x 7.12' Long +0.81' Cap Length x 2 = 30.10' Row Length +12.0" End Stone x 2 = 32.10' Base Length

1 Rows x 51.0" Wide + 12.0" Side Stone x 2 = 6.25' Base Width

6.0" Stone Base + 30.0" Chamber Height + 6.0" Stone Cover = 3.50' Field Height

4 Chambers x 45.9 cf = 183.8 cf Chamber Storage

702.1 cf Field - 183.8 cf Chambers = 518.4 cf Stone x 30.0% Voids = 155.5 cf Stone Storage

Chamber Storage + Stone Storage = 339.3 cf = 0.008 af

Overall Storage Efficiency = 48.3%

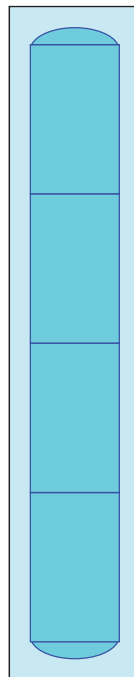
Overall System Size = 32.10' x 6.25' x 3.50'

4 Chambers @ \$ 300.00 /ea = \$ 1,200.00

26.0 cy Field Excavation @ \$ 30.00 /cy = \$ 780.13

19.2 cy Stone @ \$ 30.00 /cy = \$ 575.95

Total Cost = \$ 2,556.08



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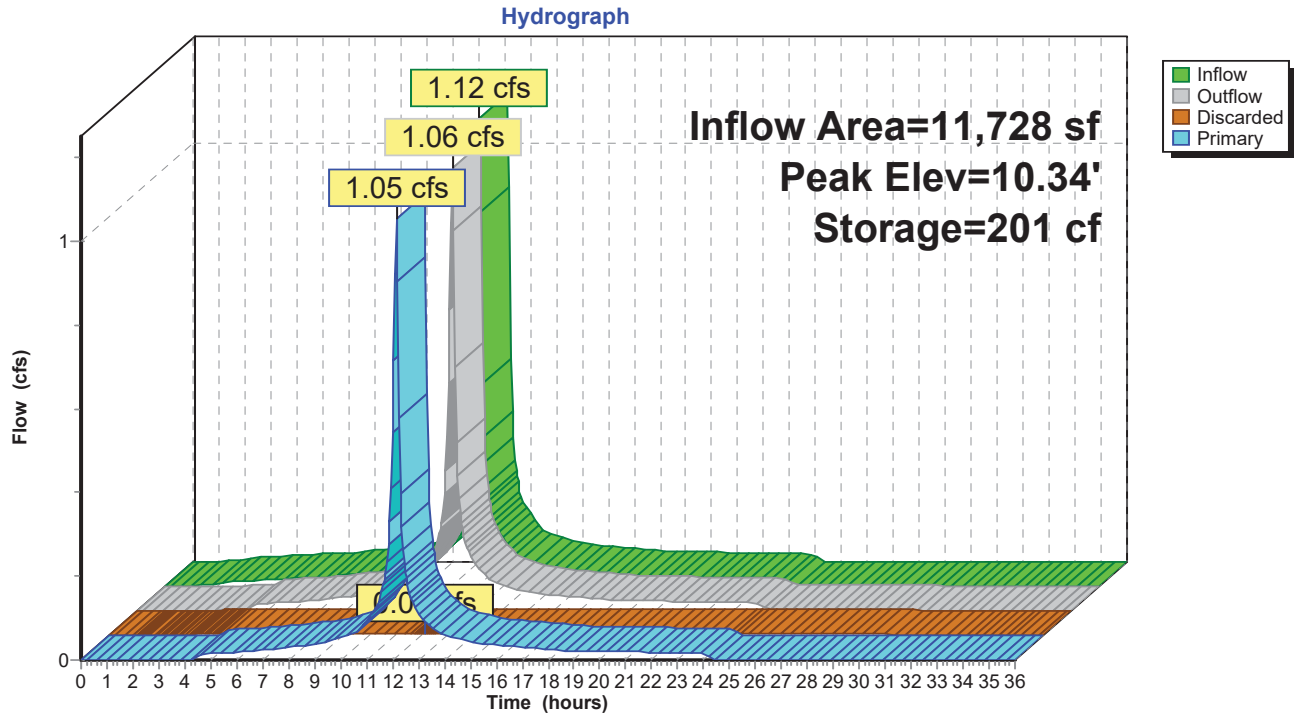
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Pond 1P: Infiltration



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Summary for Pond 2P: Paver Base

Inflow Area = 310 sf, 100.00% Impervious, Inflow Depth = 4.53" for 10-Year event
 Inflow = 0.03 cfs @ 12.13 hrs, Volume= 117 cf
 Outflow = 0.00 cfs @ 13.49 hrs, Volume= 117 cf, Atten= 93%, Lag= 81.7 min
 Discarded = 0.00 cfs @ 13.49 hrs, Volume= 117 cf
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
 Peak Elev= 13.19' @ 13.49 hrs Surf.Area= 310 sf Storage= 40 cf

Plug-Flow detention time= 145.1 min calculated for 117 cf (100% of inflow)
 Center-of-Mass det. time= 144.9 min (896.4 - 751.4)

Volume	Invert	Avail.Storage	Storage Description
#1	12.75'	116 cf	Stone storage (Prismatic) Listed below (Recalc) 388 cf Overall x 30.0% Voids

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
12.75	310	0	0
14.00	310	388	388

Device	Routing	Invert	Outlet Devices
#0	Primary	14.00'	Automatic Storage Overflow (Discharged without head)
#1	Discarded	12.75'	0.270 in/hr Exfiltration over Surface area Conductivity to Groundwater Elevation = 7.50'

Discarded OutFlow Max=0.00 cfs @ 13.49 hrs HW=13.19' (Free Discharge)
 ↑ **1=Exfiltration** (Controls 0.00 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=12.75' (Free Discharge)

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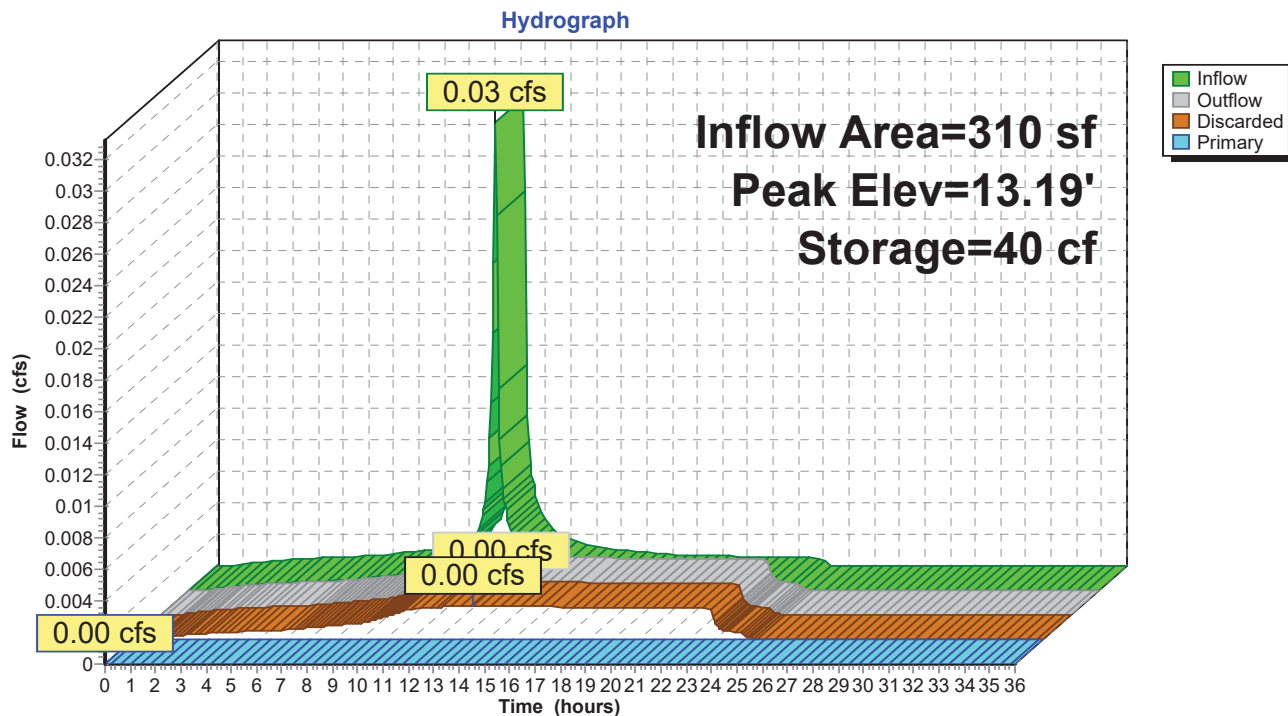
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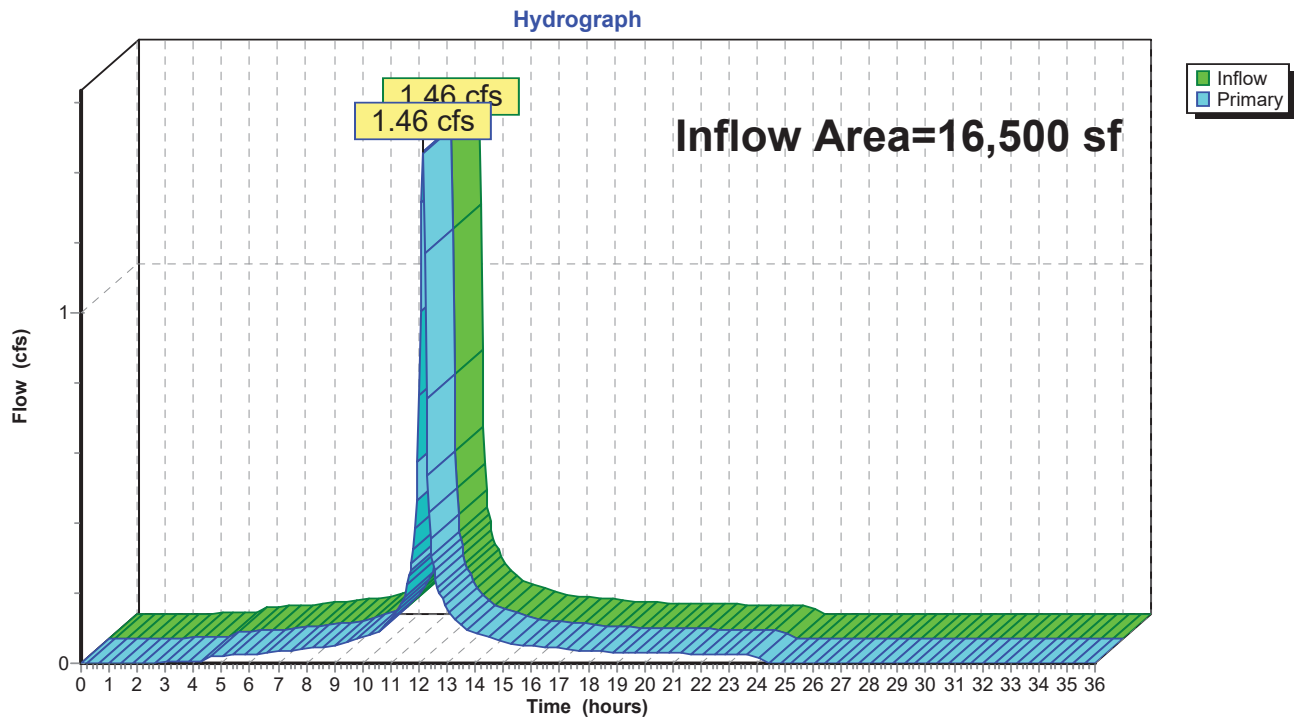
Pond 2P: Paver Base



Summary for Link DP1: Design Point 1

Inflow Area = 16,500 sf, 93.00% Impervious, Inflow Depth = 4.05" for 10-Year event
Inflow = 1.46 cfs @ 12.14 hrs, Volume= 5,566 cf
Primary = 1.46 cfs @ 12.14 hrs, Volume= 5,566 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Link DP1: Design Point 1

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NRCC 24-hr D 25-Year Rainfall=6.03"

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Time span=0.00-36.00 hrs, dt=0.05 hrs, 721 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1S: To Infiltrators

Runoff Area=11,728 sf 94.96% Impervious Runoff Depth=5.67"
Tc=6.0 min CN=97 Runoff=1.42 cfs 5,545 cf

Subcatchment2S: Porous Pavers

Runoff Area=310 sf 100.00% Impervious Runoff Depth=5.79"
Tc=6.0 min CN=98 Runoff=0.04 cfs 150 cf

Subcatchment3S: Uncollected

Runoff Area=4,462 sf 87.36% Impervious Runoff Depth=5.44"
Tc=6.0 min CN=95 Runoff=0.53 cfs 2,023 cf

Pond 1P: Infiltration

Peak Elev=10.62' Storage=233 cf Inflow=1.42 cfs 5,545 cf
Discarded=0.00 cfs 304 cf Primary=1.32 cfs 5,229 cf Outflow=1.32 cfs 5,534 cf

Pond 2P: Paver Base

Peak Elev=13.36' Storage=57 cf Inflow=0.04 cfs 150 cf
Discarded=0.00 cfs 150 cf Primary=0.00 cfs 0 cf Outflow=0.00 cfs 150 cf

Link DP1: Design Point 1

Inflow=1.84 cfs 7,253 cf
Primary=1.84 cfs 7,253 cf

Total Runoff Area = 16,500 sf Runoff Volume = 7,718 cf Average Runoff Depth = 5.61"
7.00% Pervious = 1,155 sf 93.00% Impervious = 15,345 sf

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Summary for Subcatchment 1S: To Infiltrators

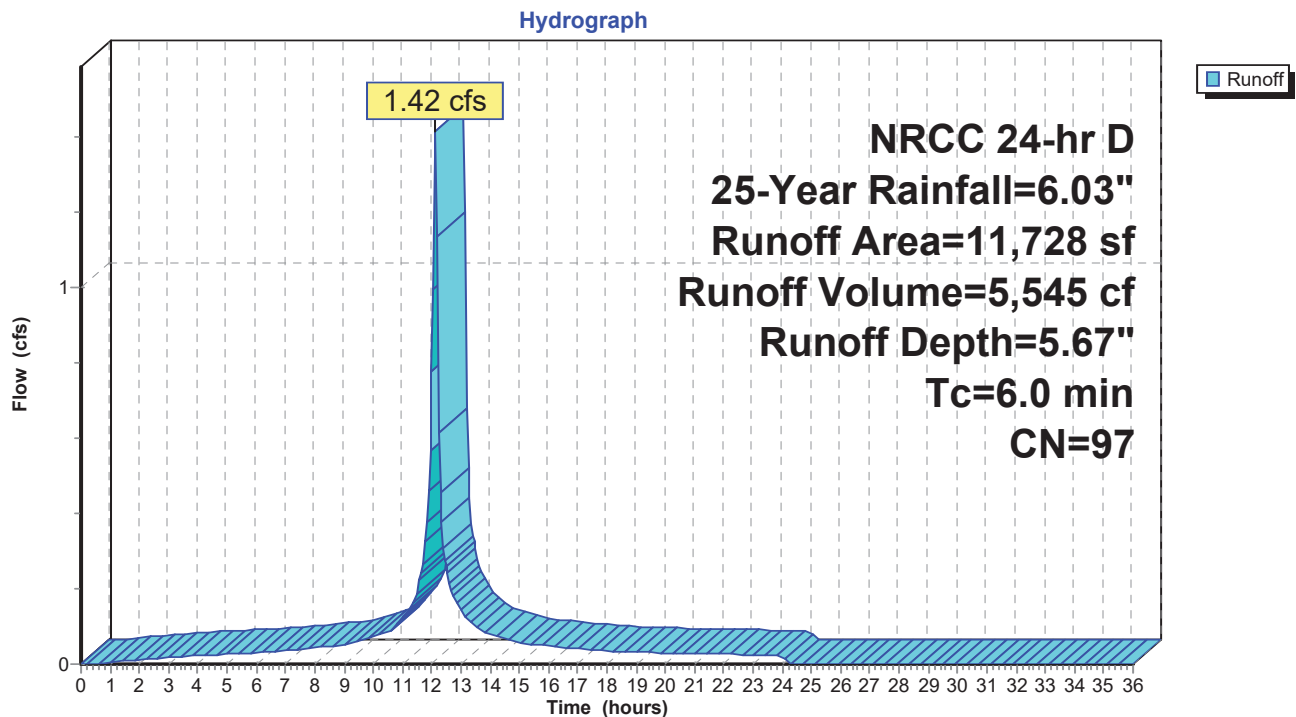
Runoff = 1.42 cfs @ 12.13 hrs, Volume= 5,545 cf, Depth= 5.67"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
NRCC 24-hr D 25-Year Rainfall=6.03"

	Area (sf)	CN	Description
*	5,973	98	Residential Roof, HSG C
*	2,780	98	Office Roof (partial), HSG C
	2,384	98	Paved parking, HSG C
	591	74	>75% Grass cover, Good, HSG C
	11,728	97	Weighted Average
	591		5.04% Pervious Area
	11,137		94.96% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, Direct Entry

Subcatchment 1S: To Infiltrators



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Summary for Subcatchment 2S: Porous Pavers

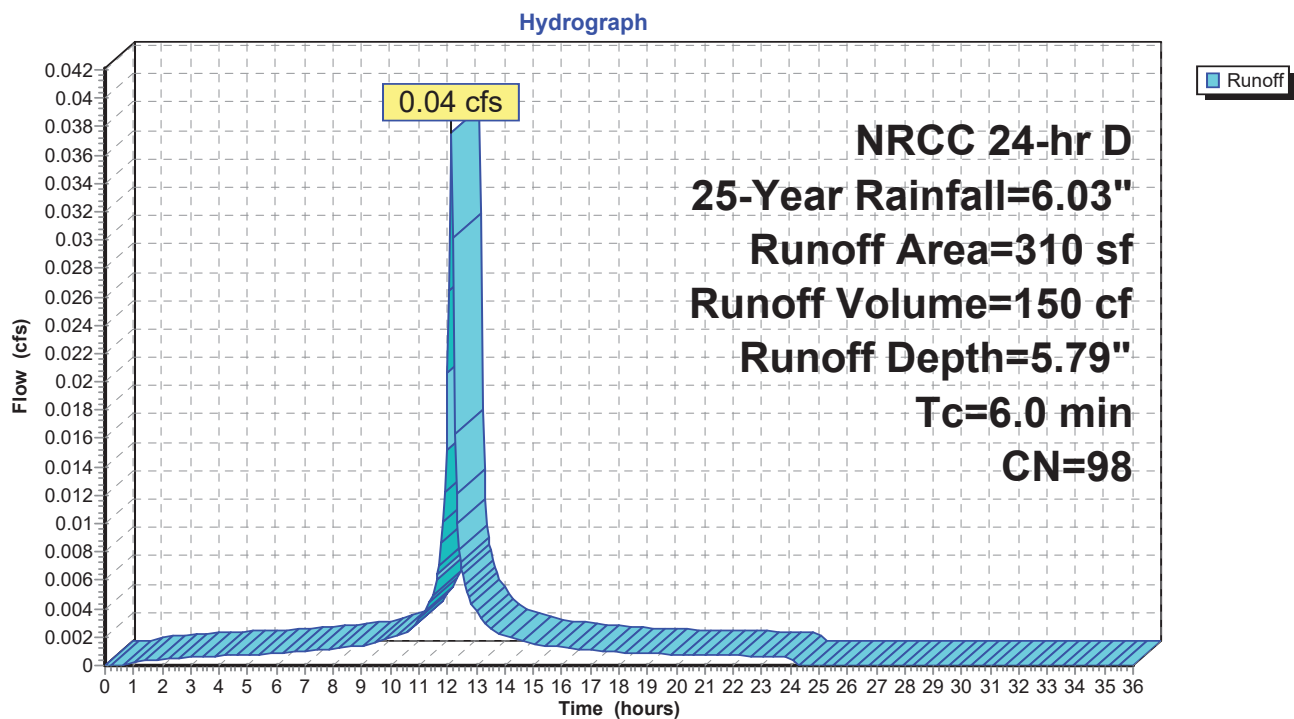
Runoff = 0.04 cfs @ 12.13 hrs, Volume= 150 cf, Depth= 5.79"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
NRCC 24-hr D 25-Year Rainfall=6.03"

	Area (sf)	CN	Description
*	310	98	Porous Pavment
	310		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, Direct Entry

Subcatchment 2S: Porous Pavers



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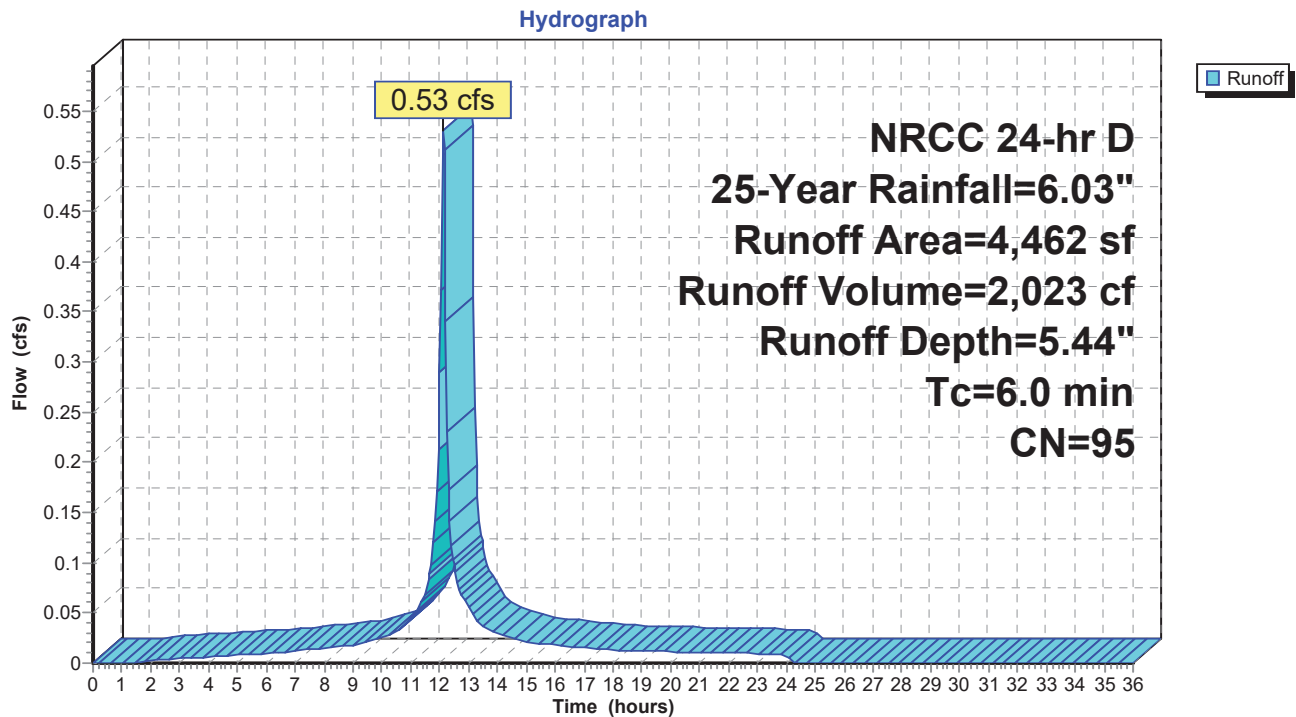
Summary for Subcatchment 3S: Uncollected

Runoff = 0.53 cfs @ 12.13 hrs, Volume= 2,023 cf, Depth= 5.44"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
NRCC 24-hr D 25-Year Rainfall=6.03"

	Area (sf)	CN	Description
	3,008	98	Unconnected roofs, HSG C
*	330	98	Retaining wall
*	260	98	Concrete Pavement
	300	98	Unconnected pavement, HSG C
	564	74	>75% Grass cover, Good, HSG C
	4,462	95	Weighted Average
	564		12.64% Pervious Area
	3,898		87.36% Impervious Area
	3,308		84.86% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, Direct Entry

Subcatchment 3S: Uncollected

Summary for Pond 1P: Infiltration

Inflow Area = 11,728 sf, 94.96% Impervious, Inflow Depth = 5.67" for 25-Year event
 Inflow = 1.42 cfs @ 12.13 hrs, Volume= 5,545 cf
 Outflow = 1.32 cfs @ 12.15 hrs, Volume= 5,534 cf, Atten= 7%, Lag= 1.5 min
 Discarded = 0.00 cfs @ 12.15 hrs, Volume= 304 cf
 Primary = 1.32 cfs @ 12.15 hrs, Volume= 5,229 cf

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
 Peak Elev= 10.62' @ 12.15 hrs Surf.Area= 201 sf Storage= 233 cf

Plug-Flow detention time= 31.8 min calculated for 5,534 cf (100% of inflow)
 Center-of-Mass det. time= 30.3 min (785.6 - 755.3)

Volume	Invert	Avail.Storage	Storage Description
#1A	8.50'	156 cf	6.25'W x 32.10'L x 3.50'H Field A 702 cf Overall - 184 cf Embedded = 518 cf x 30.0% Voids
#2A	9.00'	184 cf	ADS_StormTech SC-740 +Cap x 4 Inside #1 Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap
		339 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Discarded	8.50'	0.270 in/hr Exfiltration over Surface area Conductivity to Groundwater Elevation = 7.50'
#2	Primary	9.50'	8.0" Round Overflow L= 34.0' CPP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 9.50' / 8.82' S= 0.0200 ' /' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.35 sf

Discarded OutFlow Max=0.00 cfs @ 12.15 hrs HW=10.62' (Free Discharge)

↑**1=Exfiltration** (Controls 0.00 cfs)

Primary OutFlow Max=1.32 cfs @ 12.15 hrs HW=10.62' (Free Discharge)

↑**2=Overflow** (Inlet Controls 1.32 cfs @ 3.77 fps)

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Pond 1P: Infiltration - Chamber Wizard Field A

Chamber Model = ADS_StormTech SC-740 +Cap (ADS StormTech® SC-740 with cap length)

Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf

Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap

4 Chambers/Row x 7.12' Long +0.81' Cap Length x 2 = 30.10' Row Length +12.0" End Stone x 2 = 32.10' Base Length

1 Rows x 51.0" Wide + 12.0" Side Stone x 2 = 6.25' Base Width

6.0" Stone Base + 30.0" Chamber Height + 6.0" Stone Cover = 3.50' Field Height

4 Chambers x 45.9 cf = 183.8 cf Chamber Storage

702.1 cf Field - 183.8 cf Chambers = 518.4 cf Stone x 30.0% Voids = 155.5 cf Stone Storage

Chamber Storage + Stone Storage = 339.3 cf = 0.008 af

Overall Storage Efficiency = 48.3%

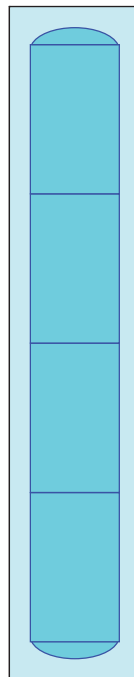
Overall System Size = 32.10' x 6.25' x 3.50'

4 Chambers @ \$ 300.00 /ea = \$ 1,200.00

26.0 cy Field Excavation @ \$ 30.00 /cy = \$ 780.13

19.2 cy Stone @ \$ 30.00 /cy = \$ 575.95

Total Cost = \$ 2,556.08



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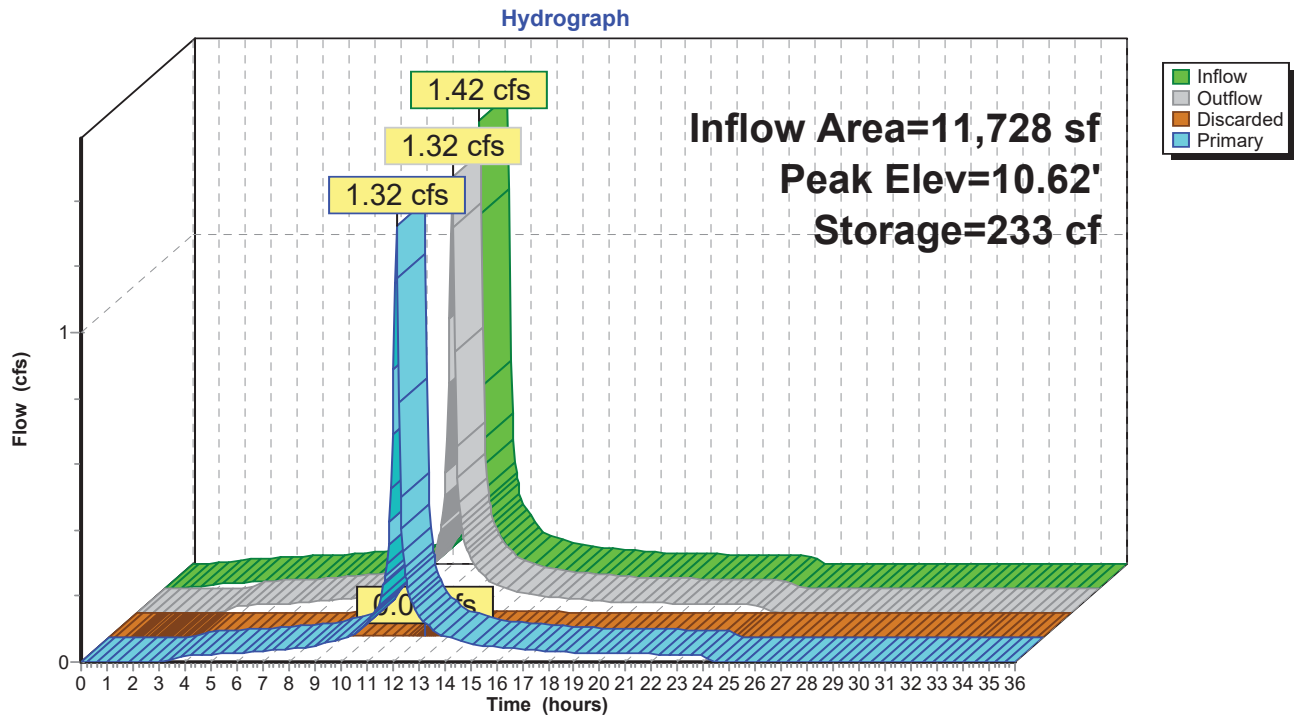
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Pond 1P: Infiltration



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Summary for Pond 2P: Paver Base

Inflow Area = 310 sf, 100.00% Impervious, Inflow Depth = 5.79" for 25-Year event
 Inflow = 0.04 cfs @ 12.13 hrs, Volume= 150 cf
 Outflow = 0.00 cfs @ 13.92 hrs, Volume= 150 cf, Atten= 94%, Lag= 107.6 min
 Discarded = 0.00 cfs @ 13.92 hrs, Volume= 150 cf
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
 Peak Elev= 13.36' @ 13.92 hrs Surf.Area= 310 sf Storage= 57 cf

Plug-Flow detention time= 214.9 min calculated for 149 cf (100% of inflow)
 Center-of-Mass det. time= 214.9 min (962.0 - 747.1)

Volume	Invert	Avail.Storage	Storage Description
#1	12.75'	116 cf	Stone storage (Prismatic) Listed below (Recalc) 388 cf Overall x 30.0% Voids

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
12.75	310	0	0
14.00	310	388	388

Device	Routing	Invert	Outlet Devices
#0	Primary	14.00'	Automatic Storage Overflow (Discharged without head)
#1	Discarded	12.75'	0.270 in/hr Exfiltration over Surface area Conductivity to Groundwater Elevation = 7.50'

Discarded OutFlow Max=0.00 cfs @ 13.92 hrs HW=13.36' (Free Discharge)
 ↑**1=Exfiltration** (Controls 0.00 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=12.75' (Free Discharge)

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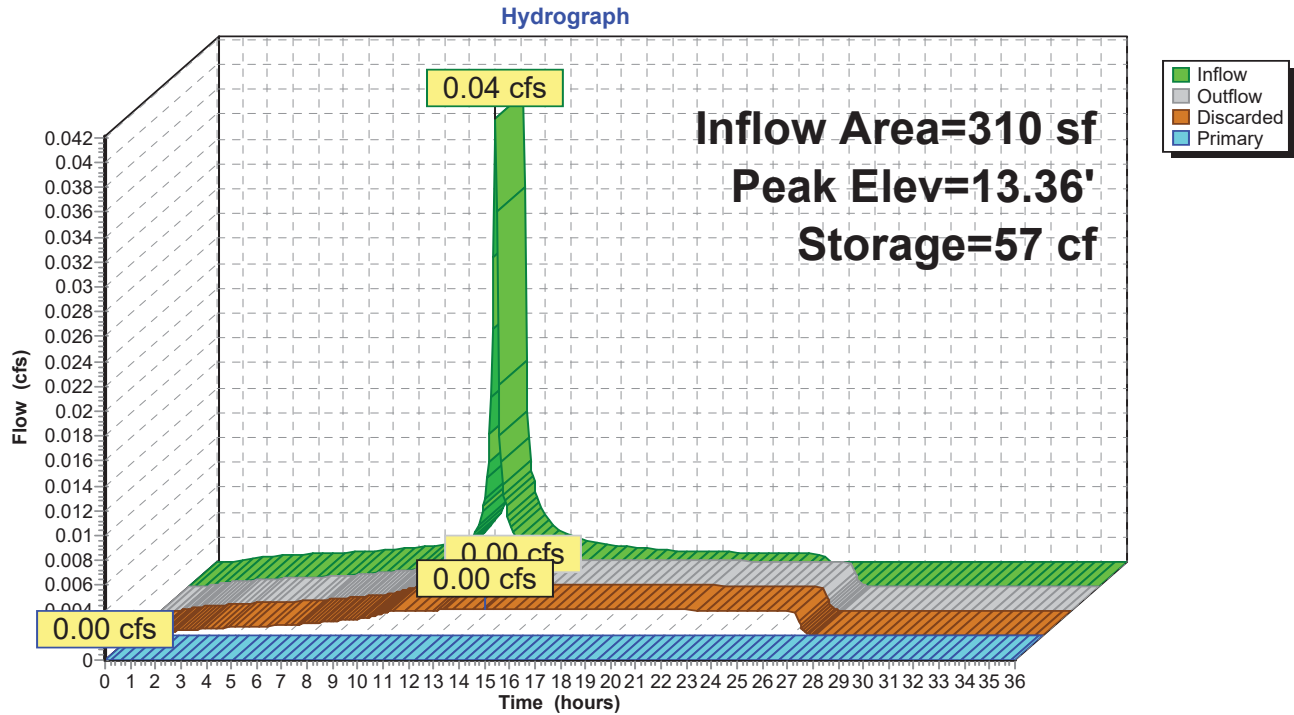
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Pond 2P: Paver Base



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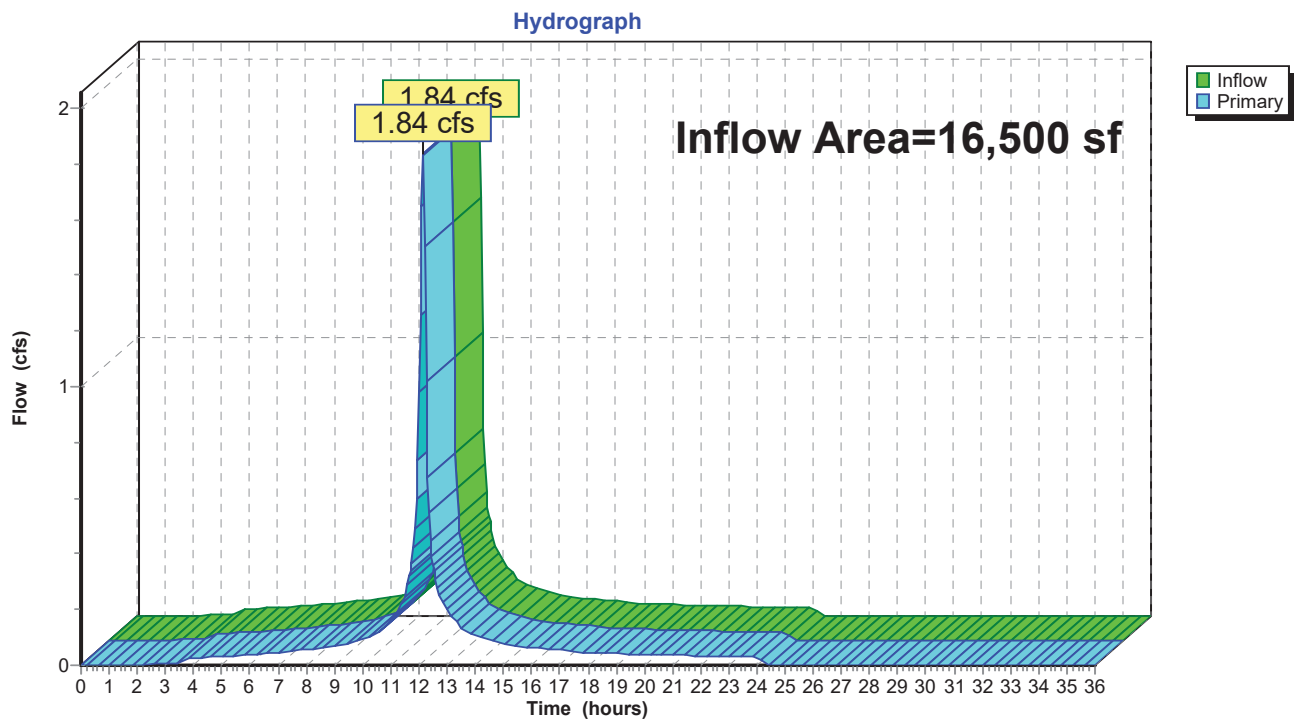
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Summary for Link DP1: Design Point 1

Inflow Area = 16,500 sf, 93.00% Impervious, Inflow Depth = 5.27" for 25-Year event
Inflow = 1.84 cfs @ 12.14 hrs, Volume= 7,253 cf
Primary = 1.84 cfs @ 12.14 hrs, Volume= 7,253 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

Link DP1: Design Point 1



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NRCC 24-hr D 100-Year Rainfall=8.62"

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Time span=0.00-36.00 hrs, dt=0.05 hrs, 721 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1S: To Infiltrators

Runoff Area=11,728 sf 94.96% Impervious Runoff Depth=8.26"
Tc=6.0 min CN=97 Runoff=2.03 cfs 8,072 cf

Subcatchment2S: Porous Pavers

Runoff Area=310 sf 100.00% Impervious Runoff Depth=8.38"
Tc=6.0 min CN=98 Runoff=0.05 cfs 216 cf

Subcatchment3S: Uncollected

Runoff Area=4,462 sf 87.36% Impervious Runoff Depth=8.02"
Tc=6.0 min CN=95 Runoff=0.77 cfs 2,982 cf

Pond 1P: Infiltration

Peak Elev=11.46' Storage=306 cf Inflow=2.03 cfs 8,072 cf
Discarded=0.00 cfs 312 cf Primary=1.89 cfs 7,748 cf Outflow=1.89 cfs 8,060 cf

Pond 2P: Paver Base

Peak Elev=13.78' Storage=96 cf Inflow=0.05 cfs 216 cf
Discarded=0.00 cfs 216 cf Primary=0.00 cfs 0 cf Outflow=0.00 cfs 216 cf

Link DP1: Design Point 1

Inflow=2.63 cfs 10,730 cf
Primary=2.63 cfs 10,730 cf

Total Runoff Area = 16,500 sf Runoff Volume = 11,271 cf Average Runoff Depth = 8.20"
7.00% Pervious = 1,155 sf 93.00% Impervious = 15,345 sf

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Sunnyside Proposed
NRCC 24-hr D 100-Year Rainfall=8.62"

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Summary for Subcatchment 1S: To Infiltrators

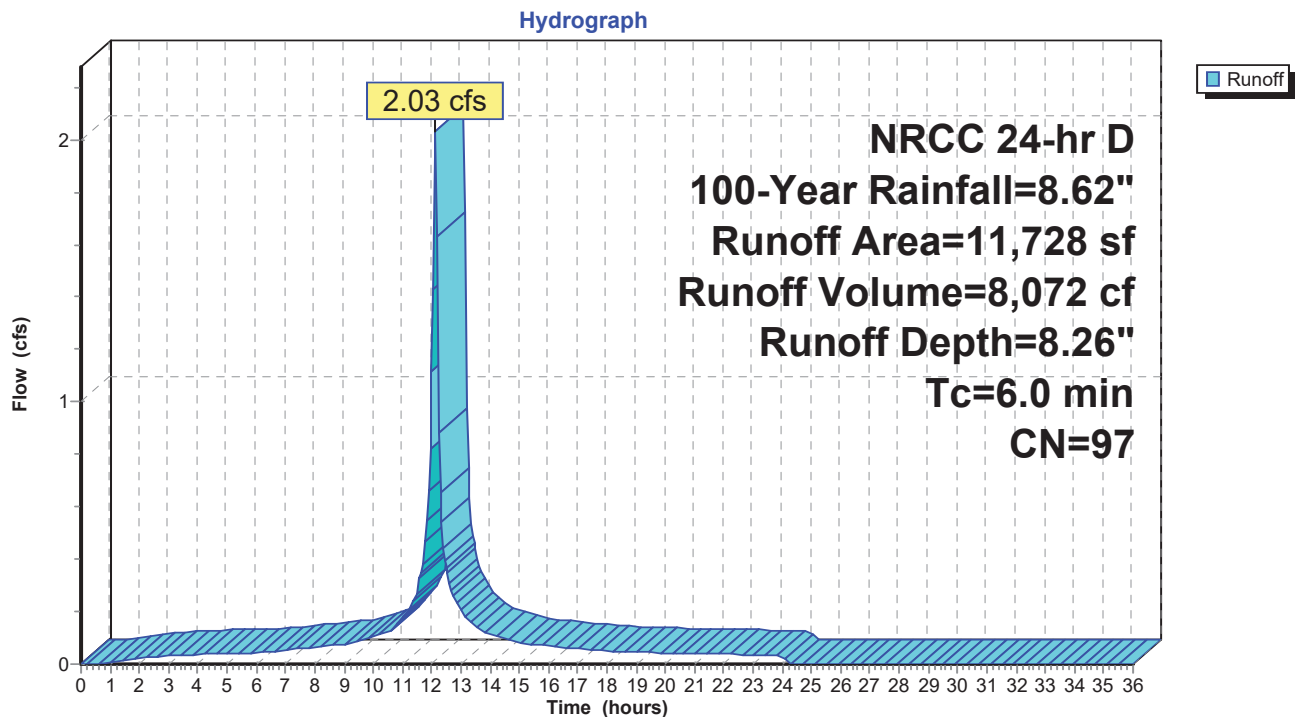
Runoff = 2.03 cfs @ 12.13 hrs, Volume= 8,072 cf, Depth= 8.26"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
NRCC 24-hr D 100-Year Rainfall=8.62"

	Area (sf)	CN	Description
*	5,973	98	Residential Roof, HSG C
*	2,780	98	Office Roof (partial), HSG C
	2,384	98	Paved parking, HSG C
	591	74	>75% Grass cover, Good, HSG C
	11,728	97	Weighted Average
	591		5.04% Pervious Area
	11,137		94.96% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, Direct Entry

Subcatchment 1S: To Infiltrators



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Sunnyside Proposed

NRCC 24-hr D 100-Year Rainfall=8.62"

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Summary for Subcatchment 2S: Porous Pavers

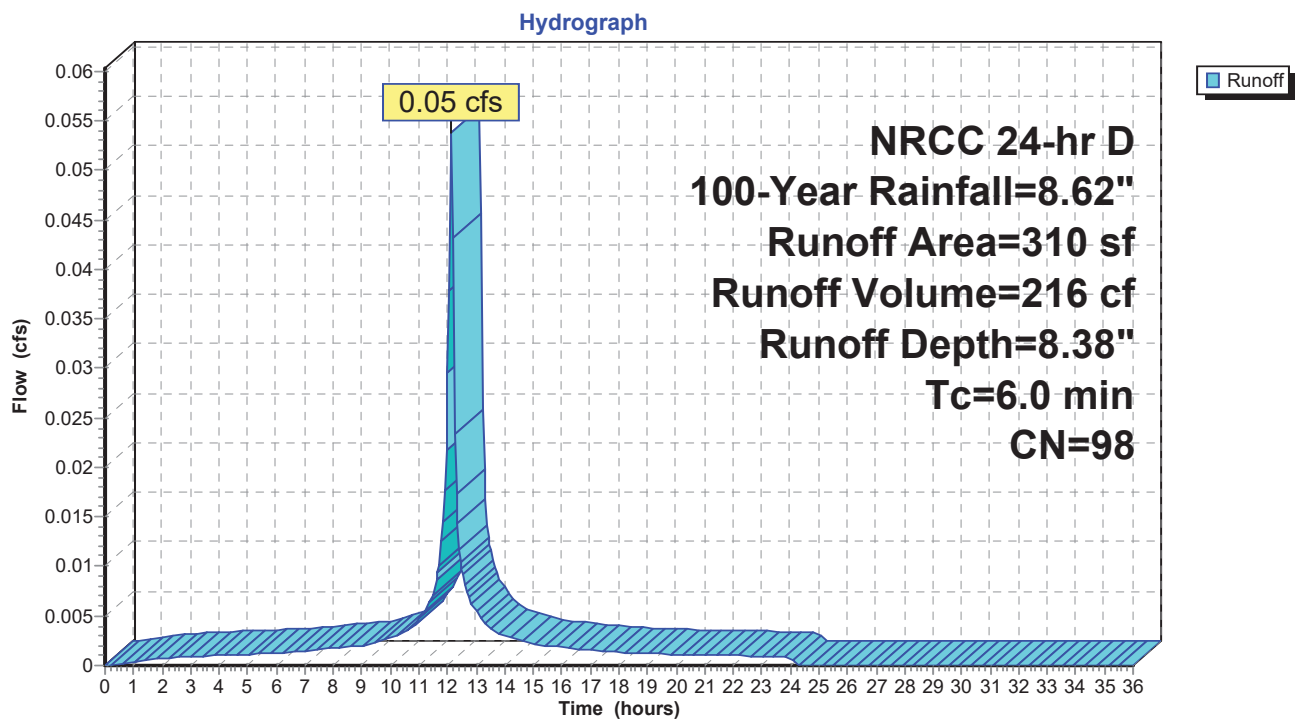
Runoff = 0.05 cfs @ 12.13 hrs, Volume= 216 cf, Depth= 8.38"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
NRCC 24-hr D 100-Year Rainfall=8.62"

	Area (sf)	CN	Description
*	310	98	Porous Pavment
	310		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, Direct Entry

Subcatchment 2S: Porous Pavers



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Sunnyside Proposed
NRCC 24-hr D 100-Year Rainfall=8.62"

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Summary for Subcatchment 3S: Uncollected

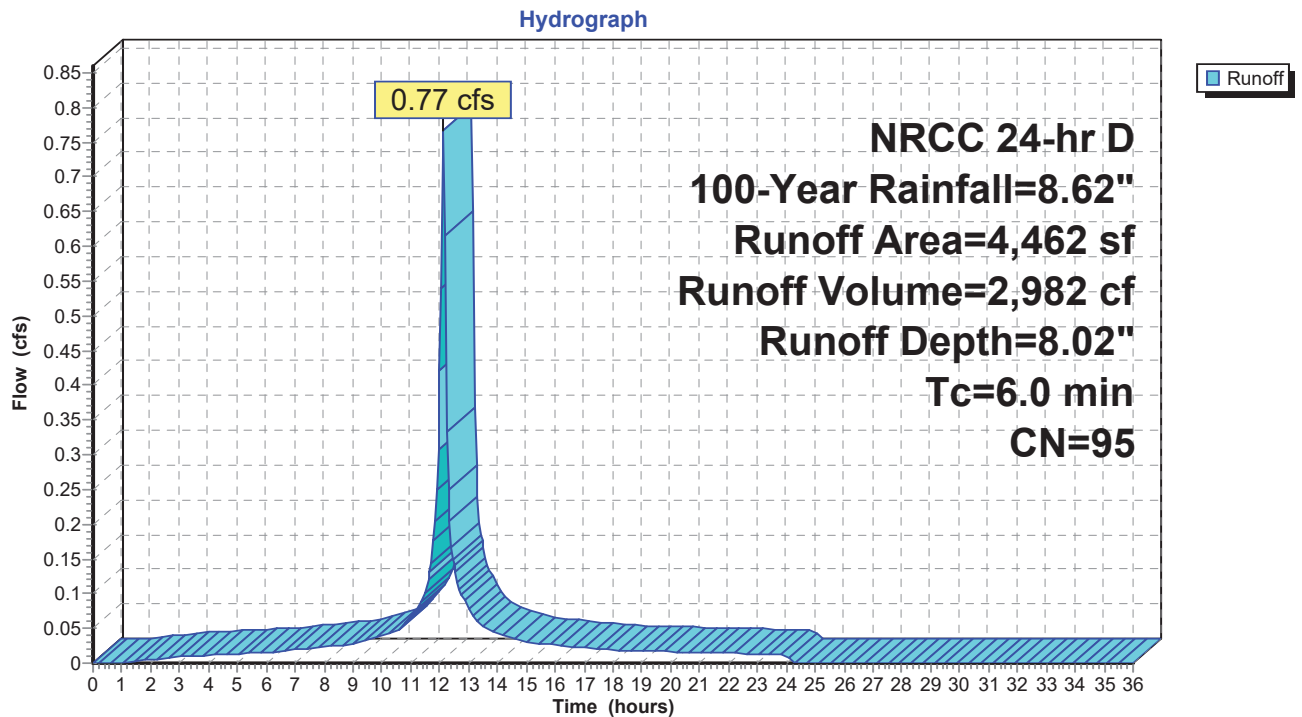
Runoff = 0.77 cfs @ 12.13 hrs, Volume= 2,982 cf, Depth= 8.02"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
NRCC 24-hr D 100-Year Rainfall=8.62"

	Area (sf)	CN	Description
	3,008	98	Unconnected roofs, HSG C
*	330	98	Retaining wall
*	260	98	Concrete Pavement
	300	98	Unconnected pavement, HSG C
	564	74	>75% Grass cover, Good, HSG C
	4,462	95	Weighted Average
	564		12.64% Pervious Area
	3,898		87.36% Impervious Area
	3,308		84.86% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, Direct Entry

Subcatchment 3S: Uncollected



Summary for Pond 1P: Infiltration

Inflow Area = 11,728 sf, 94.96% Impervious, Inflow Depth = 8.26" for 100-Year event
 Inflow = 2.03 cfs @ 12.13 hrs, Volume= 8,072 cf
 Outflow = 1.89 cfs @ 12.15 hrs, Volume= 8,060 cf, Atten= 7%, Lag= 1.6 min
 Discarded = 0.00 cfs @ 12.15 hrs, Volume= 312 cf
 Primary = 1.89 cfs @ 12.15 hrs, Volume= 7,748 cf

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
 Peak Elev= 11.46' @ 12.15 hrs Surf.Area= 201 sf Storage= 306 cf

Plug-Flow detention time= 22.2 min calculated for 8,049 cf (100% of inflow)
 Center-of-Mass det. time= 22.1 min (770.2 - 748.1)

Volume	Invert	Avail.Storage	Storage Description
#1A	8.50'	156 cf	6.25'W x 32.10'L x 3.50'H Field A 702 cf Overall - 184 cf Embedded = 518 cf x 30.0% Voids
#2A	9.00'	184 cf	ADS_StormTech SC-740 +Cap x 4 Inside #1 Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap
		339 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Discarded	8.50'	0.270 in/hr Exfiltration over Surface area Conductivity to Groundwater Elevation = 7.50'
#2	Primary	9.50'	8.0" Round Overflow L= 34.0' CPP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 9.50' / 8.82' S= 0.0200 ' / Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.35 sf

Discarded OutFlow Max=0.00 cfs @ 12.15 hrs HW=11.43' (Free Discharge)

↑**1=Exfiltration** (Controls 0.00 cfs)

Primary OutFlow Max=1.87 cfs @ 12.15 hrs HW=11.43' (Free Discharge)

↑**2=Overflow** (Inlet Controls 1.87 cfs @ 5.37 fps)

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NRCC 24-hr D 100-Year Rainfall=8.62"

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Pond 1P: Infiltration - Chamber Wizard Field A

Chamber Model = ADS_StormTech SC-740 +Cap (ADS StormTech® SC-740 with cap length)

Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf

Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap

4 Chambers/Row x 7.12' Long +0.81' Cap Length x 2 = 30.10' Row Length +12.0" End Stone x 2 = 32.10' Base Length

1 Rows x 51.0" Wide + 12.0" Side Stone x 2 = 6.25' Base Width

6.0" Stone Base + 30.0" Chamber Height + 6.0" Stone Cover = 3.50' Field Height

4 Chambers x 45.9 cf = 183.8 cf Chamber Storage

702.1 cf Field - 183.8 cf Chambers = 518.4 cf Stone x 30.0% Voids = 155.5 cf Stone Storage

Chamber Storage + Stone Storage = 339.3 cf = 0.008 af

Overall Storage Efficiency = 48.3%

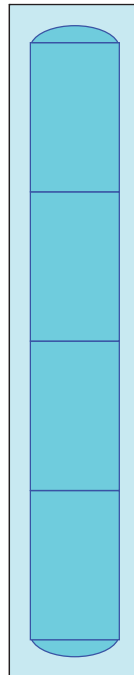
Overall System Size = 32.10' x 6.25' x 3.50'

4 Chambers @ \$ 300.00 /ea = \$ 1,200.00

26.0 cy Field Excavation @ \$ 30.00 /cy = \$ 780.13

19.2 cy Stone @ \$ 30.00 /cy = \$ 575.95

Total Cost = \$ 2,556.08



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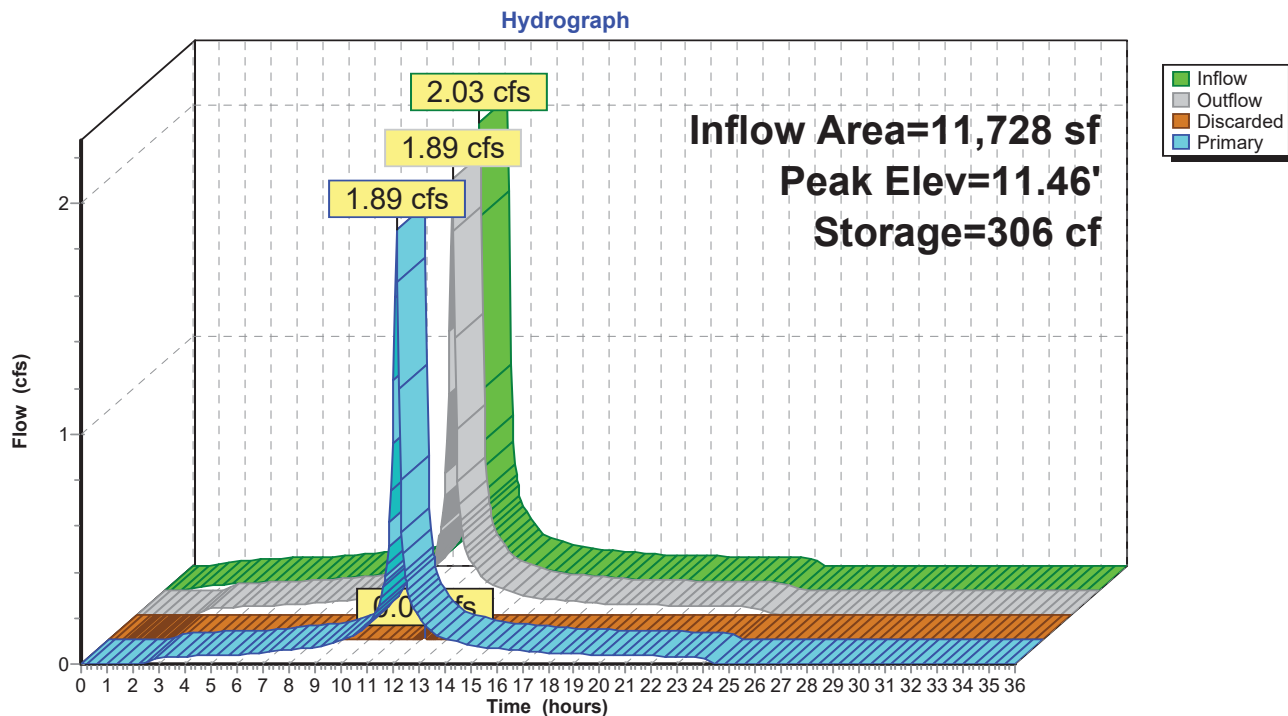
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NRCC 24-hr D 100-Year Rainfall=8.62"

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Pond 1P: Infiltration



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Sunnyside Proposed
NRCC 24-hr D 100-Year Rainfall=8.62"

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Summary for Pond 2P: Paver Base

Inflow Area = 310 sf, 100.00% Impervious, Inflow Depth = 8.38" for 100-Year event
Inflow = 0.05 cfs @ 12.13 hrs, Volume= 216 cf
Outflow = 0.00 cfs @ 14.82 hrs, Volume= 216 cf, Atten= 96%, Lag= 161.7 min
Discarded = 0.00 cfs @ 14.82 hrs, Volume= 216 cf
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Stor-Ind method, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs
Peak Elev= 13.78' @ 14.82 hrs Surf.Area= 310 sf Storage= 96 cf

Plug-Flow detention time= 360.7 min calculated for 216 cf (100% of inflow)
Center-of-Mass det. time= 360.6 min (1,102.3 - 741.7)

Volume	Invert	Avail.Storage	Storage Description
#1	12.75'	116 cf	Stone storage (Prismatic) Listed below (Recalc) 388 cf Overall x 30.0% Voids

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
12.75	310	0	0
14.00	310	388	388

Device	Routing	Invert	Outlet Devices
#0	Primary	14.00'	Automatic Storage Overflow (Discharged without head)
#1	Discarded	12.75'	0.270 in/hr Exfiltration over Surface area Conductivity to Groundwater Elevation = 7.50'

Discarded OutFlow Max=0.00 cfs @ 14.82 hrs HW=13.78' (Free Discharge)
↑**1=Exfiltration** (Controls 0.00 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=12.75' (Free Discharge)

1620000049 PR

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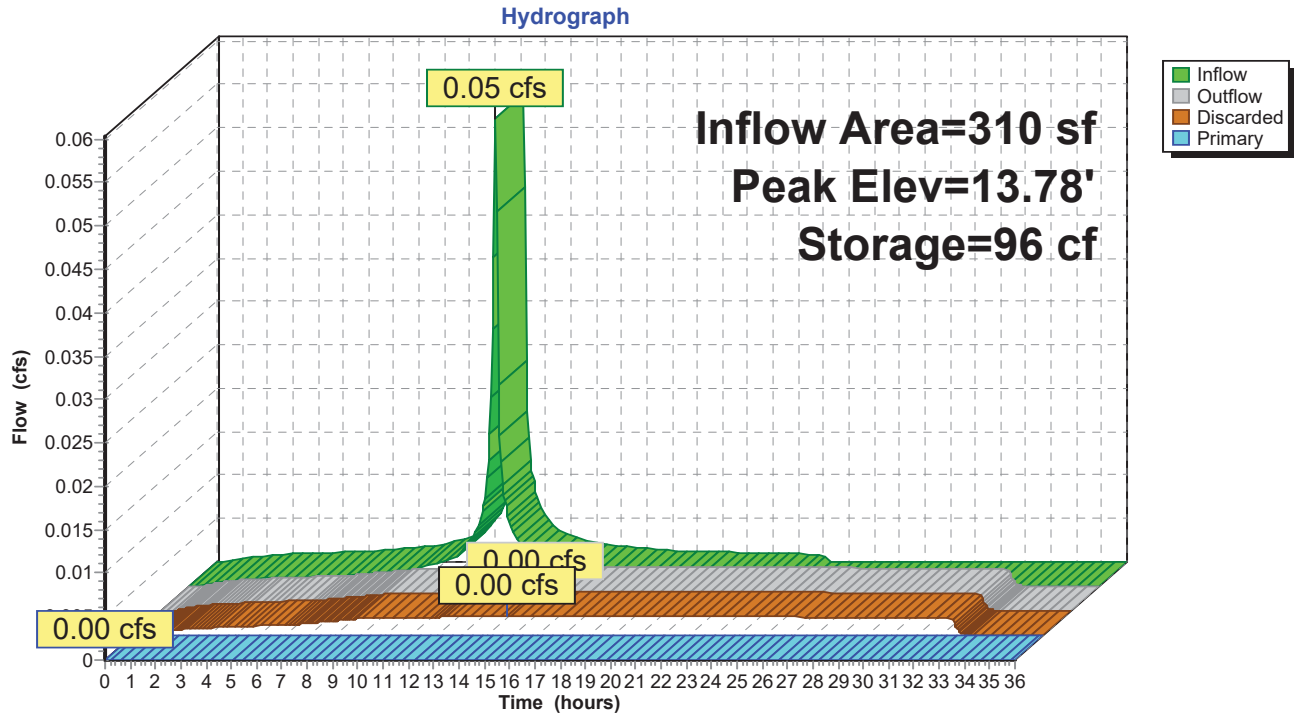
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Sunnyside Proposed
NRCC 24-hr D 100-Year Rainfall=8.62"

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Pond 2P: Paver Base



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Sunnyside Proposed
NRCC 24-hr D 100-Year Rainfall=8.62"

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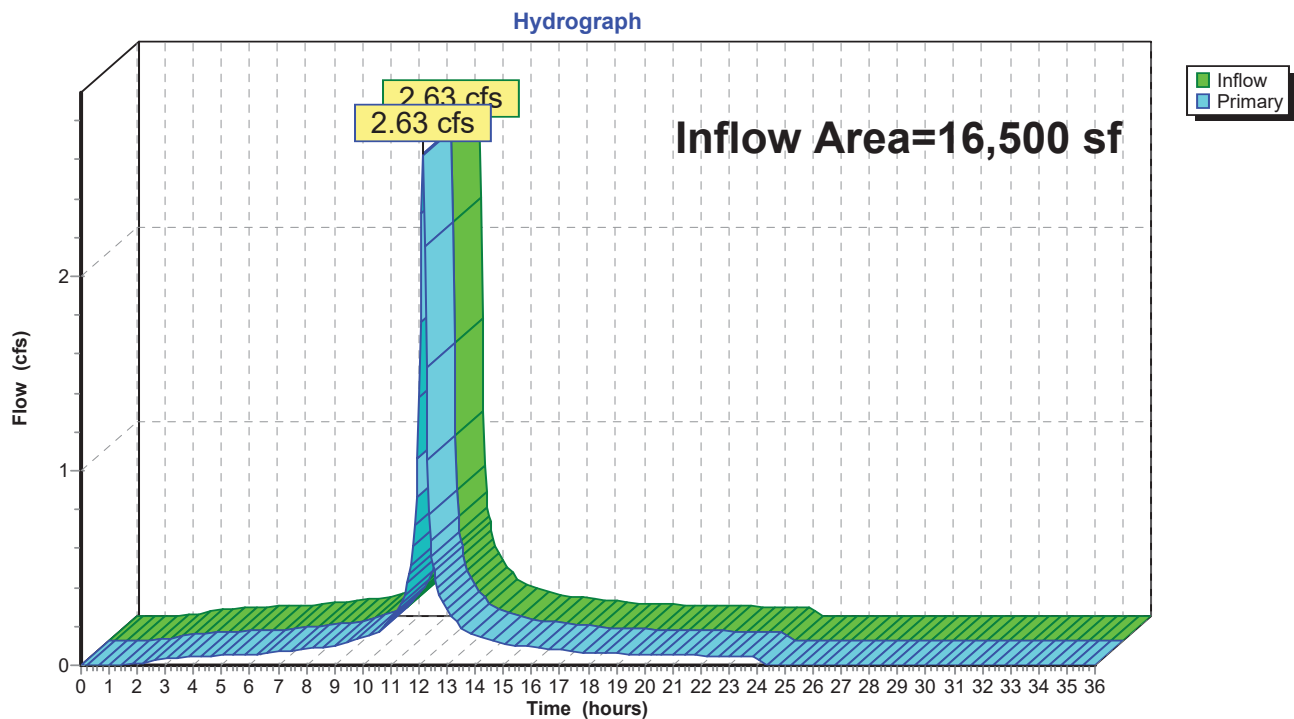
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Summary for Link DP1: Design Point 1

Inflow Area = 16,500 sf, 93.00% Impervious, Inflow Depth = 7.80" for 100-Year event
Inflow = 2.63 cfs @ 12.14 hrs, Volume= 10,730 cf
Primary = 2.63 cfs @ 12.14 hrs, Volume= 10,730 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-36.00 hrs, dt= 0.05 hrs

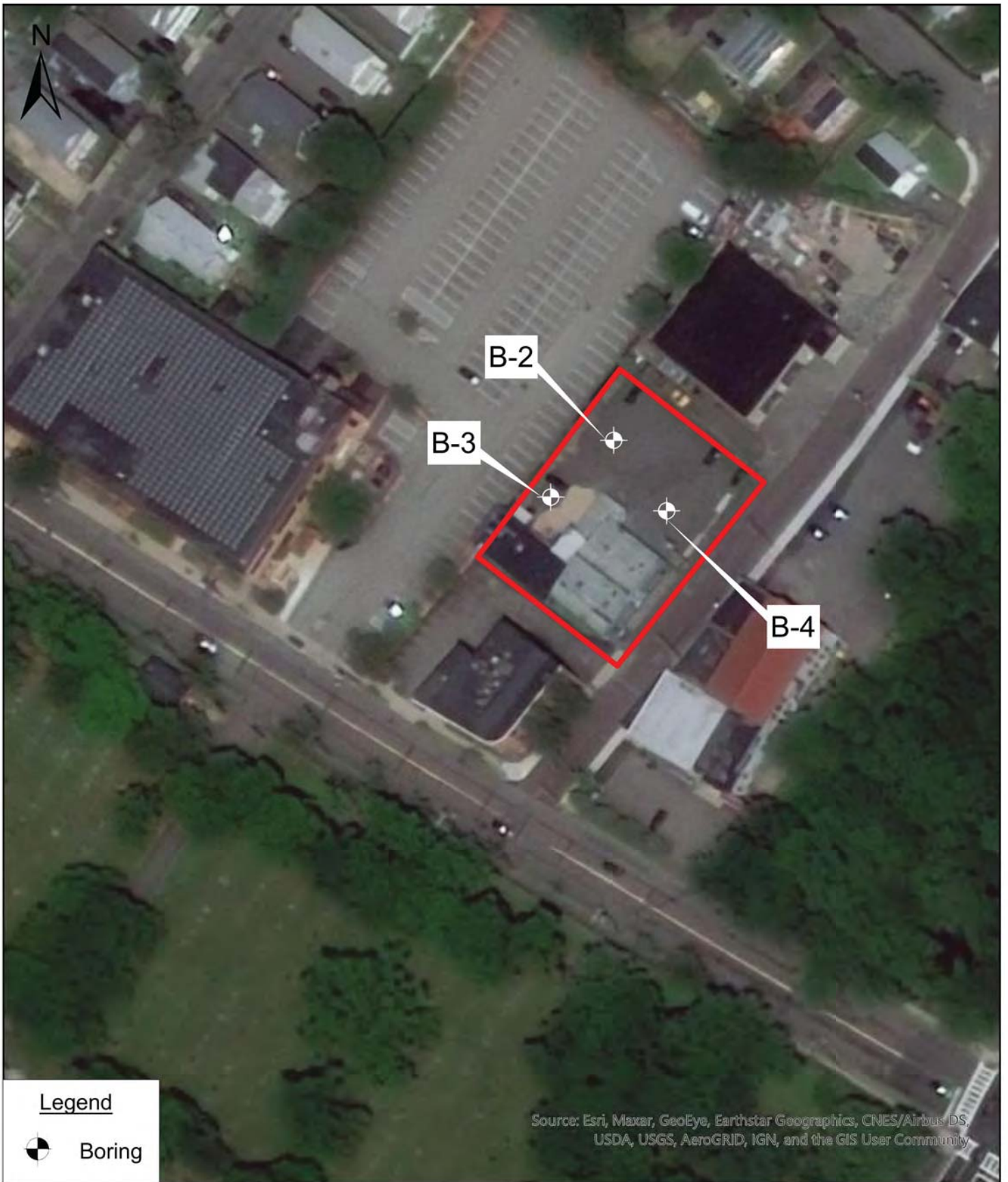
Link DP1: Design Point 1



STANDARD 3 – SUPPORTING INFORMATION

Included in this section:

- Water Quality Recharge Calculations
- Boring Logs



BORING LOG

Project: **Column Health Offices & Residents**
 Location: **10 Sunnyside Ave**
 Client: **Column Health LLC**
 Driller: **Soil Exploration**
 Drilling Methods: **Hollow Stem Auger**
 Weather: **47, Partly Cloudy**
 Performed By: **MRG** Date: **10/19/2020**
 Checked By: **MFC** Date:



Boring No: **B-2**
 Location:
 Approx. Ground Elevation: **7 ft**
 Approx. Groundwater Elevation:
 Date/Time of Groundwater Elevation:
 Datum: **NAVD88**
 Project No. **1620000050**

Depth (feet)	Sample No.	Blows per 6-inch	Pen./ Rec.	Soil Description	Stratum Change Depth (feet)	STRATUM	Note No.
1	S-1	5	18"/24"	S-1 Grey, Fine to Medium SAND some SILT, Medium Dense, Damp. (SM)			
2		6					
3	S-2	6	19"/24"	S-2a 4" Grey, SILT, Wet. S-2b Brown, Fine to Medium SAND some SILT, Medium Dense, Damp.			
4		12					
5		7					
6	S-3	9	7"/24"	S-3 Grey, Fine SAND, some Silt, Loose, Wet. (SM)			1
7		11					
8							
9							
10							
11	S-4	WOH/12"	24"/24"	S-4 Grey, SILT trace Fine Sand, Loose, Wet. (ML)		GLACIAL OUTWASH	2
12		1					
13		1					
14							
15							
16							
17							
18							
19							


NOTES:

- WOR - Weight of Rod
- WOH - Weight of Hammer


LEGEND

S - Split Spoon Sample	O/A - Sample Collected Off the Augers
UT - Undisturbed Tube Sample	
Trace - Approximately 0 to 10%	Some - Approximately 20 to 35%
Little - Approximately 10 to 20%	And - Approximately 35 to 50%
0-10 Coarse Soil N Value - Loose	30-50 Coarse Soil N Value - Dense
10-30 Coarse Soil N Value - Medium Dense	>50 Coarse Soil N Value - Very Dense
0-4 Fine Soil N Value - Soft	8-15 Fine Soil N Value - Stiff
4-8 Fine Soil N Value - Medium Stiff	>30 Fine Soil N Value - Hard
	15-30 Fine Soil N Value - Very Stiff

BORING LOG

Project: Cloumn Health Offices & Residents Location: 10 Sunnyside Ave Client: Column Health LLC Driller: Soil Exploration Drilling Methods: Hollow Stem Auger Weather: 47, Partly Cloudy Performed By: MRG Date: 10/19/2020 Checked By: MFC Date:						Boring No: B-2 Location: Approx. Ground Elevation: 7 ft Approx. Groundwater Elevation: Date/Time of Groundwater Elevation: Datum: NAVD88 Project No. 1620000050		
Depth (feet)	Sample No.	Blows per 6-inch	Pen./ Rec.	Soil Description	Stratum Change Depth (feet)	STRATUM	Note No.	
21								
22								
23								
24								
25								
26	S-5	8	22"/24"	S-5 Grey, Fine to Coarse SAND, some Silt, Medium Dense, Wet. (SM)				
27		9						
28		10						
29		20						
30								
31	S-6	5	17"/24"	S-6 Grey, Similar to S-5, Loose, Damp.				
32		8						
33		10						
34		13						
35								
36	S-7	15	14"/24"	S-7 Grey, Similar to S-6, Dense, Wet.				
37		14						
38		20						
39		26						
40								
NOTES:				LEGEND S - Split Spoon Sample O/A - Sample Collected Off the Augers UT - Undisturbed Tube Sample Trace - Approximately 0 to 10% Some - Approximately 20 to 35% Little - Approximately 10 to 20% And - Approximately 35 to 50% 0-10 Coarse Soil N Value - Loose 30-50 Coarse Soil N Value - Dense 10-30 Coarse Soil N Value - Medium Dense >50 Coarse Soil N Value - Very Dense 0-4 Fine Soil N Value - Soft 8-15 Fine Soil N Value - Stiff >30 Fine Soil N Value - Hard 4-8 Fine Soil N Value - Medium Stiff 15-30 Fine Soil N Value - Very Stiff				

BORING LOG

Project: Cloumn Health Offices & Residents Location: 10 Sunnyside Ave Client: Column Health LLC Driller: Soil Exploration Drilling Methods: Hollow Stem Auger Weather: 40, Cloudy Performed By: MRG Date: 10/19/2020 Checked By: MFC Date:						Boring No: B-3 Location: Approx. Ground Elevation: 7 ft Approx. Groundwater Elevation: Date/Time of Groundwater Elevation: Datum: NAVD88 Project No. 1620000050	
Depth (feet)	Sample No.	Blows per 6-inch	Pen./ Rec.	Soil Description	Stratum Change Depth (feet)	STRATUM	Note No.
1	S-1	5	12"/24"	S-1 Tan, SILT and Gravel, loose, Wet. (ML)			
2		5					
3		3					
4		3					
5							
6	S-2	2	22"/24"	S-2 Tan, SILT, Loose, Wet. (ML)			
7		2					
8		2					
9		2					
10							
11	S-3	1	24"/24"	S-4 Grey, Similar to S-2, Loose, Wet.		GLACIAL OUTWASH	
12		2					
13		2					
14		3					
15							
16							
17							
18							
19							
NOTES:				LEGEND			
				S - Split Spoon Sample UT - Undisturbed Tube Sample Trace - Approximately 0 to 10% Little - Approximately 10 to 20% 0-10 Coarse Soil N Value - Loose 10-30 Coarse Soil N Value - Medium Dense 0-4 Fine Soil N Value - Soft 4-8 Fine Soil N Value - Medium Stiff			
				O/A - Sample Collected Off the Augers Some - Approximately 20 to 35% And - Approximately 35 to 50% 30-50 Coarse Soil N Value - Dense >50 Coarse Soil N Value - Very Dense 8-15 Fine Soil N Value - Stiff 15-30 Fine Soil N Value - Very Stiff >30 Fine Soil N Value - Hard			

BORING LOG

Project: **Cloumn Health Offices & Residents**
 Location: **10 Sunnyside Ave**
 Client: **Column Health LLC**
 Driller: **Soil Exploration**
 Drilling Methods: **Hollow Stem Auger**
 Weather: **40, Cloudy**
 Performed By: **MRG** Date: **10/19/2020**
 Checked By: **MFC** Date:



Boring No: **B-3**
 Location:
 Approx. Ground Elevation: **7 ft**
 Approx. Groundwater Elevation:
 Date/Time of Groundwater Elevation:
 Datum: **NAVD88**
 Project No. **1620000050**

Depth (feet)	Sample No.	Blows per 6-inch	Pen./ Rec.	Soil Description	Stratum Change Depth (feet)	STRATUM	Note No.
21							
22							
23							
24							
25							
26	S-4	5	0"/24"	S-4 Medium Dense.			
27		8					
28		8					
29		14					
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							
40							

GLACIAL OUTWASH


Boring Terminated at 37 Feet

NOTES:

LEGEND

S - Split Spoon Sample	O/A - Sample Collected Off the Augers
UT - Undisturbed Tube Sample	
Trace - Approximately 0 to 10%	Some - Approximately 20 to 35%
Little - Approximately 10 to 20%	And - Approximately 35 to 50%
0-10 Coarse Soil N Value - Loose	30-50 Coarse Soil N Value - Dense
10-30 Coarse Soil N Value - Medium Dense	>50 Coarse Soil N Value - Very Dense
0-4 Fine Soil N Value - Soft	8-15 Fine Soil N Value - Stiff
4-8 Fine Soil N Value - Medium Stiff	>30 Fine Soil N Value - Hard
	15-30 Fine Soil N Value - Very Stiff

BORING LOG

Project: Column Health Offices & Residents Location: 10 Sunnyside Ave Client: Column Health LLC Driller: Soil Exploration Drilling Methods: Hollow Stem Auger Weather: 57, Sunny Performed By: MRG Date: 10/19/2020 Checked By: MFC Date:						Boring No: B-4 Location: Approx. Ground Elevation: 7 ft Approx. Groundwater Elevation: Date/Time of Groundwater Elevation: Datum: NAVD88 Project No. 1620000050	
Depth (feet)	Sample No.	Blows per 6-inch	Pen./ Rec.	Soil Description	Stratum Change Depth (feet)	STRATUM	Note No.
1	S-1	5 6 6	19"/24"	S-1a 2" Fill. S-1b CLAY some Fine to Coarse GRAVEL, Brown, Medium Dense, Damp. (OH)	0.17	FILL	
2	S-2	4 3	17"/24"	S-2 CLAY some Fine to Medium SAND, Brown, Loose, Wet.		GLACIAL OUTWASH	
3		2 2 3					
4							
5	S-3	2 3 2	18"/24"	S-3 Fine to Medium SAND some CLAY, Brown, Loose, Wet.			
6		3 5					
7							
8	S-4	3 2 1	17"/24"	S-4 Same as S-3, Brown, Loose, Wet.			
9							
10	S-5	4 6 4	23"/24"	S-4 Similar to S-3, Grey, Loose, Wet. S-5b Fine SAND trace SILT, Brown, Loose, Saturated.			
11		6					
12							
13							
14							
15	S-6	5 7 13	19"/24"	S-6a 6" CLAY. (OH) S-6b Similar to S-5b, trace CLAY, Grey, Medium Dense, Wet.			
16		15					
17							
18							
19							
NOTES:				LEGEND			
				S - Split Spoon Sample UT - Undisturbed Tube Sample Trace - Approximately 0 to 10% Little - Approximately 10 to 20% 0-10 Coarse Soil N Value - Loose 10-30 Coarse Soil N Value - Medium Dense 0-4 Fine Soil N Value - Soft 4-8 Fine Soil N Value - Medium Stiff			
				O/A - Sample Collected Off the Augers Some - Approximately 20 to 35% And - Approximately 35 to 50% 30-50 Coarse Soil N Value - Dense >50 Coarse Soil N Value - Very Dense 8-15 Fine Soil N Value - Stiff 15-30 Fine Soil N Value - Very Stiff			
				>30 Fine Soil N Value - Hard			

BORING LOG

Project: **Column Health Offices & Residents**
 Location: **10 Sunnyside Ave**
 Client: **Column Health LLC**
 Driller: **Soil Exploration**
 Drilling Methods: **Hollow Stem Auger**
 Weather: **57, Sunny**
 Performed By: **MRG** Date: **10/19/2020**
 Checked By: **MFC** Date:



Boring No: **B-4**
 Location:
 Approx. Ground Elevation: **7 ft**
 Approx. Groundwater Elevation:
 Date/Time of Groundwater Elevation:
 Datum: **NAVD88**
 Project No. **1620000050**

Depth (feet)	Sample No.	Blows per 6-inch	Pen./ Rec.	Soil Description	Stratum Change Depth (feet)	STRATUM	Note No.
21	S-7	5 12 15 20	16"/24"	S-7 Fine to Coarse GRAVEL, little Fine to Coarse SAND, Brown, Medium Dense, Wet.			
22							
23							
24							
25							
26	S-8	10 26 29 33	16"/24"	S-8a 5" Fine to Medium SAND S-8b Fine to Coarse GRAVEL, trace fine to Coarse SAND, Brown, Very Dense, Wet.			
27							
28							
29						GLACIAL OUTWASH	
30							
31	S-9	9 12 13 19	14"/24"	S-4 Similar to S-3, Grey, Loose, Wet, Brown, Medium Dense, Wet.			
32							
33							
34							
35							
36	S-10	14 24 54 73	10"/24"	S-10 CLAY and Fine to Coarse GRAVEL, Brown, Very Dense, Wet.			
37						Boring Terminated at 37 Feet	
38							
39							
40							

NOTES:

LEGEND

S - Split Spoon Sample	O/A - Sample Collected Off the Augers
UT - Undisturbed Tube Sample	
Trace - Approximately 0 to 10%	Some - Approximately 20 to 35%
Little - Approximately 10 to 20%	And - Approximately 35 to 50%
0-10 Coarse Soil N Value - Loose	30-50 Coarse Soil N Value - Dense
10-30 Coarse Soil N Value - Medium Dense	>50 Coarse Soil N Value - Very Dense
0-4 Fine Soil N Value - Soft	8-15 Fine Soil N Value - Stiff
4-8 Fine Soil N Value - Medium Stiff	>30 Fine Soil N Value - Hard
	15-30 Fine Soil N Value - Very Stiff

STANDARD 4 – SUPPORTING INFORMATION

Included in this section:

- Long-Term Pollution Prevention Plan

LONG-TERM POLLUTION PREVENTION PLAN

The purpose of the Long-Term Pollution Prevention Plan (LTPPP) is to identify potential sources of pollution that may affect the quality of stormwater discharges, and to describe the implementation of practices to reduce potential pollutants in stormwater discharge. The owner and/or its designee are responsible for adherence to the operation and maintenance plan in a rigorous and complete manner. This LTPPP has been prepared in accordance with Standard 4 of the Massachusetts Department of Environmental Protection (MassDEP) Stormwater Management Standards.

The Site Plans for Post at 10 Sunnyside Avenue in Arlington, MA and the Stormwater Operation and Maintenance Plan are made part of this LTPPP by reference.

Stormwater Management System Owner:

Column Health, LLC
339 Massachusetts Avenue
Arlington, MA 02474
617-539-6780

Emergency Contact Information:

EBI Consulting, Inc. – Telephone: 781-273-2500 x1304

The following maintenance program is proposed to ensure the continued effectiveness of the structural water quality controls proposed as part of the development of 10 Sunnyside Avenue in Arlington, MA. The maintenance program is also developed specifically for the proposed use as a mixed-use development.

MAINTENANCE OF PAVEMENT SYSTEMS

Regular maintenance of pavement surfaces will prevent pollutants such as oil and grease, trash, and sediments from entering the stormwater management system. The following practices should be performed:

- Utilize high efficiency vacuum sweepers to sweep and vacuum asphalt pavement areas seasonally. Dispose of collected materials in accordance with appropriate local, state and federal regulations.
- Check loading and dumpster areas frequently for spillage and/or pavement staining and clean as necessary.
- Routinely pick up and remove litter from the parking areas, islands, and perimeter landscaping.

MAINTENANCE OF VEGETATED AREAS

Proper maintenance of vegetated areas can prevent the pollution of stormwater runoff by controlling the source of pollutants such as suspended sediments, excess nutrients, and chemicals from landscape care products. Practices that should be followed under the regular maintenance of the vegetated landscape include:

- Inspect planted areas on a semi-annual basis and remove any litter.
- Maintain planted areas adjacent to pavement to prevent soil washout.
- Immediately clean any soil deposited on pavement.
- Re-seed bare areas; install appropriate erosion control measures when native soil is exposed or erosion channels are forming.
- Plant alternative mixture of grass species in the event of unsuccessful establishment.
- Grass vegetation should not be cut to a height less than four inches.
- Pesticide/Herbicide Usage
 - No pesticides are to be used unless a single spot treatment is required for a specific control application.

- No herbicides shall be applied within 100-feet of any wetland or stream.
- Fertilizer usage should be avoided. If deemed necessary, slow release, phosphorous-free fertilizer with low nitrogen content should be used in moderation. Fertilizer may be used to begin the establishment of vegetation in bare or damaged areas but should not be applied on a regular basis unless necessary.

MANAGEMENT OF SNOW AND ICE

Storage and Disposal

A private contractor will be hired to remove snow and discard off site.

Salt and Deicing Chemicals

The amount of deicing chemicals to be used on the site shall be reduced to the minimum amount needed to provide safe pedestrian and vehicle travel. The following practices should be followed to control the amount of deicing materials that come into contact with stormwater runoff:

- Devices used for spreading deicing chemicals should be capable of varying the rate of application based on the site specific conditions.
- No oil or sodium chloride shall be used during or after construction for the control of dust or ice and snow.
- Alternate materials should be used in place of standard salt and deicing chemicals.
- Sand should be stockpiled under covered storage facilities that prevent precipitation and adjacent runoff from coming in contact with the deicing materials.

STANDARD 8 – SUPPORTING INFORMATION

Included in this section:

- Construction Period Pollution Prevention and Erosion and Sedimentation Control Plan
- Construction Best Management Practices Maintenance Checklist

CONSTRUCTION PERIOD POLLUTION PREVENTION AND EROSION AND SEDIMENTATION CONTROL PLAN

The following erosion and sedimentation controls are for use during the demolition, earthwork, and construction phases of the redevelopment of **10 Sunnyside Avenue in Arlington, MA**. Attached to this plan is a Construction Best Management Practices Maintenance Checklist for use during the demolition, earthwork, and construction phases of the project. This Construction Period Pollution Prevention and Erosion and Sedimentation Control Plan has been prepared in accordance with the Massachusetts Department of Environmental Protection (MassDEP) Stormwater Management Standards and the Town of Arlington Stormwater Management Standards.

Erosion and sedimentation controls shall be installed and maintained as identified on the Site Plans for Post at 10 Sunnyside Avenue, Arlington, MA.

Responsible Party for Plan Compliance:

Column Health, LLC
339 Massachusetts Avenue
Arlington, MA 02474
617-539-6780

Emergency Contact Information:

EBI Consulting, Inc. – Telephone: 781-273-2500 x1304

EROSION AND SEDIMENTATION CONTROLS

Erosion Control Barriers

Erosion Control Barriers shall be placed at the perimeter of the work area, at the toe of slope and as shown on the plans to prevent sediment laden surface runoff from leaving the Site. The barriers will be replaced as determined by periodic field inspections.

Catch Basin Inlet Protection

Newly constructed and existing catch basins will be protected with silt sacks (where appropriate) or straw bale barriers throughout construction.

Stabilized Construction Exit

A temporary stabilized construction exit will be constructed. A cross slope will be placed at the entrance to direct runoff to a protected catch basin inlet or settling area. If deemed necessary after construction begins, a wash pad may be included to wash off vehicle wheels before leaving the Site.

Vegetative Slope Stabilization

Stabilization of open soil surfaces will be implemented within 14 days after grading or construction activities have temporarily or permanently ceased, unless there is sufficient snow cover to prohibit implementation. Vegetative slope stabilization will be used to minimize erosion on slopes of 3:1 or steeper. Annual grasses, such as annual rye, will be used to ensure rapid germination and production of root mass. Permanent stabilization will be completed with the planting of perennial grasses or legumes. Establishment of temporary and permanent vegetative cover may be provided by hydro-seeding or sodding. A suitable topsoil, good seedbed preparation, and adequate lime, fertilizer and water will be provided for effective establishment of these vegetative stabilization methods. Mulch or hay can be used after permanent seeding to protect soil from the impact of falling rain and to increase the capacity of the soil to absorb water.

Maintenance

- The site contractor will be responsible for implementing each control identified as part of this Construction Period Pollution Prevention and Erosion and Sedimentation Control Plan.
- The site contractor will be responsible for inspecting all sediment and erosion controls periodically and after each rainfall event. Records of the inspections shall be prepared and maintained on-site by the contractor.
- Damaged or deteriorated items will be repaired immediately after identification or at the direction of the owner's engineer or the City of Brockton DPW.
- The site contractor shall comply with the General Notes regarding Erosion Control as shown on the Site Plans.
- Sediment shall be removed from behind barriers when it reaches one-half the height of the barrier or as determined by periodic field inspections or manufacturer's recommendations.
- Sediment that is collected in structures shall be disposed of properly and covered if stored on-site.
- The stabilized construction exits shall be inspected weekly. The exits shall be maintained by adding additional clean, angular, durable stone to remove sediment from the tires of construction vehicles when exiting the Site. Adjacent roadways shall be kept clean and swept as needed to avoid deposition of sediment as a result of construction traffic exiting the Site.
- Dust pollution shall be controlled using an on-site water source and/or an approved soil stabilization product.
- Erosion control structures shall remain in place until all disturbed earth has been securely stabilized. After removal of structures, disturbed areas shall be re-graded and stabilized as necessary.

Project Name: Proposed Mixed-Use Redevelopment
Project Location: 10 Sunnyside Ave | Arlington, MA
Project Number: 1620000049

Date: 11/18/2020
Calculated By: RLB
Checked By: MFC

Best Management Practice	Inspection Frequency	Date Inspected	Inspector	Minimum Maintenance and Key Items to Check	Cleaning or Repair Needed (List Items if Required)	Date of Cleaning or Repair	Performed by
Pavement Sweeping	To be monitored as needed			Paved areas within the active construction site can be swept on a regular basis to remove larger sediment particles from construction activities. Pavement areas adjacent to the Site will be swept if dirt and debris is tracked from the active constructions site.			
Catch Basin Inlet Protection (Silt Sack Sediment Trap)	Inspect at least once per week and after each rainstorm of 1-inch or greater.			Inspect for proper operation. If clogged, remove accumulated sediment and properly dispose of to maintain the capacity of the catch basin.			
Silt Sock Barrier	Inspect at least once per week and after each rainstorm of 1-inch or greater.			<p>Inspect periodically and after all storm events. Repair or replacement shall be performed promptly, as needed.</p> <p>Ensure that the filter sock is intact and the area behind the sock is not filled with sediment. If there is excessive ponding behind the filter sock or accumulated sediments reach the top of the sock, an additional sock should be added on top or in front of the existing filter sock without disturbing the soil or accumulated sediment.</p> <p>If the filter sock was overtopped during a storm event, the operator should install an additional filter sock on top of the original or place an additional filter sock further up the slope.</p>			
Stabilized Construction Exit	Inspect at least once per week and after each rainstorm of 1-inch or greater.			<p>The exit shall be maintained in a condition that will prevent tracking of sediment onto public rights-of-way. The contractor shall sweep or wash pavement at exits which have experienced mud-tracking onto the pavement or traveled way. When washing is required, it shall be done on an area stabilized with aggregate that drains into an approved sediment trapping device.</p> <p>When the construction exit becomes ineffective, the stone shall be removed along with the collected soil material and redistributed on-site in a stable manner. The exit should then be reconstructed.</p> <p>All sediment shall be prevented from entering storm drains, ditches, or waterways.</p>			

Stormwater Supervisor Contact Information:

STANDARD 9 – SUPPORTING INFORMATION

Included in this section:

- Stormwater Operation and Maintenance (O&M) Plan
- Stormwater Best Management Practices Maintenance Checklist

STORMWATER OPERATION AND MAINTENANCE (O&M) PLAN

The following Stormwater Operation and Maintenance (O&M) Plan is proposed to ensure the continued effectiveness of the stormwater management system designed for the redevelopment of **10 Sunnyside Avenue in Arlington, MA**. This O&M Plan has been developed to provide a comprehensive O&M Plan for the Site, including previously developed procedures and supplementing them with additional inspection and maintenance measures for new stormwater BMPs.

Attached to this plan is a Stormwater Best Management Practices Maintenance Checklist for use during the long term operation and maintenance of the stormwater management system. This Stormwater O&M Plan has been prepared in accordance with the Massachusetts Department of Environmental Protection (MassDEP) Stormwater Management Standards and the Town of Arlington Ordinances.

The Site Plans for Post at 10 Sunnyside Avenue, Arlington, MA dated November 17, 2020 are made part of this Stormwater O&M Plan by reference.

Stormwater Management System Owner:

Column Health, LLC
339 Massachusetts Avenue
Arlington, MA 02474
617-539-6780

Emergency Contact Information:

EBI Consulting, Inc. – Telephone: 781-273-2500 x1304

DESCRIPTION OF STORMWATER MAINTENANCE MEASURES

Deep Sump and Hooded Catch Basins

- All catch basins shall be inspected a minimum of at least four times per year.
- Sediment, if more than two (2) feet deep, and/or floatable pollutants shall be pumped from the basin and disposed of at an approved offsite facility in accordance with all applicable regulations.
- Any structural damage or other indication of malfunction will be reported to the site manager and repaired as necessary.
- During cleanings, confirm the oil/debris trap (hood) is installed properly, is free of clogs, and is functional. Reinstall or replace as needed.
- During colder periods, the catch basin grates must be kept free of snow and ice.
- During warmer periods, the catch basin grates must be kept free of leaves, litter, sand, and debris.

Catch Basin Inserts

- Fabco® StormBasin (or approved equal) inserts are to be inspected semiannually and are to be cleaned in accordance with the manufacturer's maintenance requirements. A copy of the manufacturer's maintenance guidelines are provided in this report.

Roof Drain Leaders

- Perform routine roof inspections twice per year, typically in the spring and fall.
- Inspect for blockage and remove debris if required.
- Keep roofs clean and free of debris.
- Keep roof drainage systems clear.
- Keep roof access limited to authorized personnel.

Subsurface Infiltration System

- See the attached Manufacturer's instructions on operation and maintenance requirements and methodology.
- Perform routine inspections on a monthly basis for the first three months after installation. Then, at a minimum, the treatment structure is to be inspected twice annually and the infiltrating structure is to be inspected annually.
- The subsurface infiltration system will be inspected twice during for the first year and annually thereafter by removing the manhole/access port covers and determining the thickness of sediment that has accumulated.
- If sediment is more than two inches deep, it must be suspended via flushing with clean water and removed using a vactor truck.
- Emergency overflow pipes will be examined at least once each year and verified that no blockage has occurred.

Pavement Sweeping of Parking Lot

- Sweeping of pavement shall be conducted seasonally at least four times per year, or more often as necessary to minimize accumulation of sediment and other debris in catch basins and the detection basins.

Project Name: Proposed Mixed-Use Red\development
Project Location: 10 Sunnyside Ave |Arlington, MA
Project Number: 1620000015

Date: 11/17/2020
Calculated By: RLB
Checked By: MFC

Best Management Practice	Inspection Frequency	Date Inspected	Inspector	Minimum Maintenance and Key Items to Check	Cleaning or Repair Needed (List Items if Required)	Date of Cleaning or Repair	Performed by
Pavement Sweeping	Inspect twice per year, typically in the spring and fall.			Paved areas will be swept at least twice per year or as needed, primarily in the spring and/or fall with vacuum truck or similar.			
Deep Sump and Hooded Catch Basins	Inspect four times per year. Clean four times per year, in the spring and fall, or whenever sediment buildup exceeds two (2) feet in depth.			Remove trash and deposits. During cleanings, confirm the oil/debris trap (hood) is installed properly, is free of clogs, and is functional. Reinstall or replace as needed. Take care not to damage the oil/debris trap (hood) during cleaning.			
Roof Drain leaders	Inspect twice per year, typically in the spring and fall.			Inspect for blockage and remove debris if required.			
Subsurface Infiltration System	Inspect monthly for the first three months. Then, at a minimum, the treatment structure is to be inspected twice annually and the infiltrating structure is to be inspected annually as required by the manufacturer.			Inspect the system twice in the first year for proper function. Remove sediment once per year or when buildup exceeds two (2) inches in depth.			

Stormwater Supervisor Contact Information:

HYDRAULIC ANALYSIS – SUPPORTING INFORMATION

Included in this section:

- Storm Drainage Calculations

Storm Drainage
Calculations

Project Name: Proposed Redevelopment
Project Location: 10 Sunnyside Ave, Arlington, MA
Project Number: 1620000049

Date: 11/17/2020
Calculated by: RLB
Checked by: MFC

Design Parameters:
25 Year Storm Boston IDF Curve

k_s= 0.5

DESCRIPTION	LOCATION		AREA (AC.)	C	C x A	SUM C x A	FLOW TIME (MIN)		i*	DESIGN					CAPACITY		PROFILE							INLET CONTROL		OUTLET CONTROL			JUNCTION LOSSES		
	FROM	TO					PIPE	CONC TIME		Q cfs	V fps	n	PIPE SIZE	SLOPE	Q full ft^3/s	V full ft/s	LENGTH ft	FALL ft	RIM	INV UPPER	INV LOWER	W.S.E. ft	Freeboard ft	HW/D ft	HW ft	H ft	TW or h _o ft	HW ft	K _m junction	K _d junction	H loss junction
	CB-1	Infiltration Basin	0.063	0.83	0.05	0.05	0.28	6.0	5.7	0.3	3.2	0.011	8	0.017	1.9	5.4	53	0.92	14.75	11.75	10.83	11.6	3.1	0.00	0.00	0.0	0.0	0.00	0.20	0.00	0.03
	CB-2	Infiltration Basin	0.195	0.95	0.19	0.19	0.02	6.0	5.7	1.1	4.6	0.011	8	0.017	1.8	5.3	6	0.10	13.27	9.25	9.15	9.0	4.3	0.00	0.00	0.0	0.0	0.00	0.20	0.00	0.07
	CB-2	Main	0.258	0.92	0.24	0.24	0.11	6.0	5.7	1.4	4.3	0.011	8	0.010	1.4	4.1	27	0.27	13.27	9.50	9.23	9.3	4.0	0.00	0.00	0.0	0.0	0.00	0.20	0.00	0.06

ROBERT J. ANNESE
ATTORNEY AT LAW

January 15, 2021

Jennifer Raitt, Director
Department of Planning and Community Development
Town of Arlington
730 Massachusetts Avenue
Arlington, MA 02476

RE: 10 Sunnyside Avenue, Arlington, MA

Dear Ms. Raitt:

I am sending along an Application for Environmental Review filed in behalf of MB Realty Group, the owner of real estate located at 339 Massachusetts Avenue, Arlington.

Also, together with the Application are the following documents;

- Required Submittals Checklist;
- Dimensional and Parking Information form;
- Plans of Khalsa Design Incorporated;
- Stormwater Management Report of EBI Consulting;
- Supplemental Traffic Study of Nitsch Engineering;
- LEEDs project checklist;
- Environmental Impact Statement; and
- Special Permit Criteria form along with an Environmental Design Review Standards form.

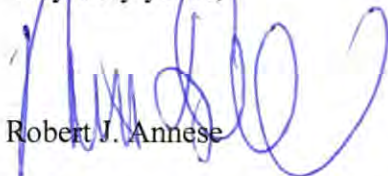
I am also sending along a check in the amount of \$2,100.00 representing the filing fee based upon a calculation of \$500.00 plus \$0.20 per square foot of the new construction of 8,000 square feet.

This Application is being filed digitally and I am sending two (2) hard copies to your office as well.

Would you please let me know the date the Application will be heard by the ARB.

Thank you for your cooperation.

Very truly yours,



Robert J. Annese

Enclosures

MB Realty Group, LLC


0991
53-13/110 MA
82989

DATE 12/30/2020

PAY
TO THE
ORDER OF

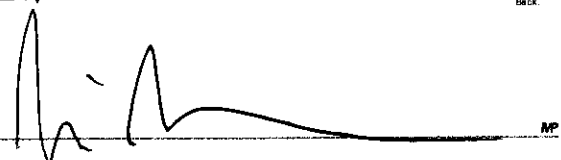
Town of Arlington

\$ 2,100.00

Two thousand one hundred and 00/100 DOLLARS 

Bank of America 

FOR Town Review

 MP

⑈000991⑈ ⑆011000138⑆ 466005834226⑈

TOWN OF ARLINGTON
REDEVELOPMENT BOARD

Application for Special Permit In Accordance with Environmental Design
Review Procedures (Section 3.4 of the Zoning Bylaw)

Docket No. _____

1. Property Address: 10 Sunnyside Ave., Arlington, MA
Name of Record Owner(s): MB Realty Group, LLC Phone: (847) 414-3081
Address of Owner: 339 Massachusetts Ave., Arlington, MA 02474
Street City, State, ZIP
2. Name of Applicant(s) (if different than above): SAME
Address: _____ Phone: _____
Status Relative to Property (occupant, purchaser, etc.): _____
3. Location of Property: Map 033.0, Block 0002, Lot 0002.B
Assessor's Block Plan, Block, Lot No.
4. Deed recorded in the Registry of deeds, Book 73883, Page 259;
or- registered in Land Registration Office, Cert. No _____, Book _____, Page _____
5. Present Use of Property (include # of dwelling units, if any): automotive use, one unit
6. Proposed Use of Property (include # of dwelling units, if any): one mixed-use building with general office and residential space that will include 5 condominiums, including an indoor garage and outdoor surface parking

- 7.
- | | | |
|--|---|---|
| Permit applied for in accordance with the following Zoning Bylaw section(s): | <u>Section 3.4</u>
<u>Section 5.5.2</u>
<u>Section 5.3.19</u> | <u>Environmental Design Review</u>
<u>Dimensional and density regulations</u>
<u>SP mixed use bylaw</u>
<u>Reduced height buffer</u> |
|--|---|---|

8. Please attach a statement that describes your project and provide any additional information that may aid the ARB in understanding the permits you request. Include any reasons that you feel you should be granted the requested permission.

Please see attached.

(In the statement below, strike out the words that do not apply)

The applicant states that **MB Realty Group, LLC** is the owner of the property in Arlington located at **10 Sunnyside Ave.** which is the subject of this application; and that unfavorable action -or- no unfavorable action has been taken by the Zoning Board of Appeals on a similar application regarding this property within the last two years. The applicant expressly agrees to comply with any and all conditions and qualifications imposed upon this permission, either by the Zoning Bylaw or by the Redevelopment Board, should the permit be granted.

Signature of Applicant(s)

Address

Phone

Town of Arlington Redevelopment Board
Application for Special Permit in accordance with
Environmental Design Review (Section 3.4)

Required Submittals Checklist

File each in triplicate except for model
References are to Arlington Zoning Bylaw

- ☒ Dimensional and Parking Information Form
- ☒ Site plan of proposal
- ☐ Model, if required
- ☒ Drawing of proposed structure
- ☒ Proposed landscaping. May be incorporated into site plan
- ☐ Photographs
- ☒ Impact statement
- ☐ Application and plans for sign permits
- ☒ Stormwater management plan (for stormwater management during construction for projects with new construction)

FOR OFFICE USE ONLY

- | | |
|---|-------------|
| <input type="checkbox"/> Special Permit Granted | Date: _____ |
| <input type="checkbox"/> Received evidence of filing with Registry of Deeds | Date: _____ |
| <input type="checkbox"/> Notified Building Inspector of Special Permit filing | Date: _____ |

TOWN OF ARLINGTON

Dimensional and Parking Information
for Application to
The Arlington Redevelopment Board

Docket No. _____

Property Location 10 Sunnyside Ave

Zoning District B4

Owner: Column Health LLC

Address: 339 Massachusetts Avenue

Present Use/Occupancy: No. of Dwelling Units:
Auto Repair: No current DU's

Uses and their gross square feet:
5,523 sf of Auto Repair and vehicle storage

Proposed Use/Occupancy: No. of Dwelling Units:
Mixed-Use (Office & Residential): 5 DU

Uses and their gross square feet:
Office: 8,082 sf / Residential: 19,428 sf

	<u>Present Conditions</u>	<u>Proposed Conditions</u>	<u>Min. or Max. Required by Zoning for Proposed Use</u>
Lot Size	16,500 sf	16,500 sf	min. n/a
Frontage	150'-2"	150'-2"	min. 50'-0"
Floor Area Ratio	.33	1.5	max. 1.5
Lot Coverage (%), where applicable	n/a	n/a	max. n/a
Lot Area per Dwelling Unit (square feet)	n/a	n/a	min. n/a
Front Yard Depth (feet)	4'-2"	4'-2"	min. 0'-0"
Side Yard Width (feet) right side	71'-0"	4'-11 1/2"	min. 0'-0"
left side	1'-0"	1'-0" (exist)	min. 0'-0"
Rear Yard Depth (feet)	0'-4"	16'-6 3/4"	min. 16'-6"
Height	+/- 15'-0"	49'-0"	min. 60'-0"
Stories	1.5	5	stories 5
Feet	+/- 15'-0"	49'-0"	feet 60'-0"
Open Space (% of G.F.A.)	n/a	1,780 sf	min. n/a
Landscaped (square feet)	unknown	1,780 sf	(s.f.) 10% (1,650 sf)
Usable (square feet)	unknown	2,643 sf	(s.f.) 20% (3,300 sf)
Parking Spaces (No.)	unknown	21 spaces	min. 20 spaces
Parking Area Setbacks (feet), where applicable	n/a	n/a	min. exempt
Loading Spaces (No.)	n/a	n/a	min. n/a
Type of Construction	TBD - Most likely Type 1 construction		
Distance to Nearest Building	+/- 35'-0"	+/- 35'-0"	min. n/a

TOWN OF ARLINGTON
REDEVELOPMENT BOARD

Petition for Special Permit under Environmental Design Review (see Section 3.4 of the Arlington Zoning Bylaw for Applicability)

For projects subject to Environmental Design Review, (see section 3.4), please submit a statement that completely describes your proposal, and addresses each of the following standards.

1. **Preservation of Landscape.** The landscape shall be preserved in its natural state, insofar as practicable, by minimizing tree and soil removal, and any grade changes shall be in keeping with the general appearance of neighboring developed areas.

The proposed plans increase the landscaping the site and will minimize tree and soil removal.

2. **Relation of Buildings to Environment.** Proposed development shall be related harmoniously to the terrain and to the use, scale, and architecture of existing buildings in the vicinity that have functional or visual relationship to the proposed buildings. The Arlington Redevelopment Board may require a modification in massing so as to reduce the effect of shadows on abutting property in an RU, RI or R2 district or on public open space.

The proposed buildings are related harmoniously to the terrain and to the use, scale, and architecture of existing building in the vicinity of the property.

3. **Open Space.** All open space (landscaped and usable) shall be so designed as to add to the visual amenities of the vicinity by maximizing its visibility for persons passing the site or overlooking it from nearby properties. The location and configuration of usable open space shall be so designed as to encourage social interaction, maximize its utility, and facilitate maintenance.

All open space, both landscaped and usable has been designed in order to enhance the level of landscaped open space and usable open space.

4. **Circulation.** With respect to vehicular, pedestrian and bicycle circulation, including entrances, ramps, walkways, drives, and parking, special attention shall be given to location and number of access points to the public streets (especially in relation to existing traffic controls and mass transit facilities), width of interior drives and access points, general interior circulation, separation of pedestrian and vehicular traffic, access to community facilities, and arrangement of vehicle parking and bicycle parking areas, including bicycle parking spaces required by Section 8.13 that are safe and convenient and, insofar as practicable, do not detract from the use and enjoyment of proposed buildings and structures and the neighboring properties.

The Applicant has submitted a traffic study of Nitsch Engineering which details the volume of traffic, safety issues, traffic patterns and other issues related to traffic with a conclusion on the part of the author of the traffic report that there will be no adverse impact upon the existing traffic conditions as a result of Applicant's development.

5. **Surface Water Drainage.** Special attention shall be given to proper site surface drainage so that removal of surface waters will not adversely affect neighboring properties or the public storm drainage system. Available Best Management Practices for the site should be employed, and include site planning to minimize impervious surface and reduce clearing and re-grading. Best Management Practices may include erosion control and storm water treatment by means of swales, filters, plantings, roof gardens, native vegetation, and leaching catch basins. Storm water should be treated at least minimally on the development site; that which cannot be handled on site shall be removed from all roofs, canopies, paved and pooling areas and carried away in an underground drainage system. Surface water in all paved areas shall be collected at intervals so that it will not obstruct the flow of vehicular or pedestrian traffic, and will not create puddles in the paved areas.

In accordance with Section 3.3.4, the Board may require from any applicant, after consultation with the Director of Public Works, security satisfactory to the Board to insure the maintenance of all storm water facilities such as catch basins, leaching catch basins, detention basins, swales, etc. within the site. The Board may use funds provided by such security to conduct maintenance that the applicant fails to do. The Board may adjust in its sole discretion the amount and type of financial security such that it is satisfied that the amount is sufficient to provide for the future maintenance needs.

A stormwater management report has been prepared by EBI Consulting and the conclusion of the author of that report is that there will be no adverse impact upon surface water drainage as a result of the Applicant's development.

6. **Utility Service.** Electric, telephone, cable TV and other such lines and equipment shall be underground. The proposed method of sanitary sewage disposal and solid waste disposal from all buildings shall be indicated.

All utility service will be underground.

7. **Advertising Features.** The size, location, design, color, texture, lighting and materials of all permanent signs and outdoor advertising structures or features shall not detract from the use and enjoyment of proposed buildings and structures and the surrounding properties. Advertising features are subject to the provisions of Section 6.2 of the Zoning Bylaw.

It is Applicant's intent to discuss with the Planning Department any advertising plans it may have with respect to the project with the expectation that any planning could be dealt with administratively .

8. **Special Features.** Exposed storage areas, exposed machinery installations, service areas, truck loading areas, utility buildings and structures, and similar accessory areas and structures shall be subject to such setbacks, screen plantings or other screening methods as shall reasonably be required to prevent their being incongruous with the existing or contemplated environment and the surrounding properties.

Any machinery located at the property will be screened as shown on the Applicant's plans and there will be adequate screening methods put in place with respect to trash and related matters.

9. **Safety.** With respect to personal safety, all open and enclosed spaces shall be designed to facilitate building evacuation and maximize accessibility by fire, police, and other emergency personnel and equipment. Insofar as practicable, all exterior spaces and interior public and semi-public spaces shall be so designed as to minimize the fear and probability of personal harm or injury by increasing the potential surveillance by neighboring residents and passersby of any accident or attempted criminal act.

The interior and exterior of the building has been designed to facilitate building evacuation and maximizing accessibility by fire, police, and other emergency personal and equipment.

10. **Heritage.** With respect to Arlington's heritage, removal, or disruption of historic, traditional, or significant uses, structures, or architectural elements shall be minimized insofar as practicable, whether these exist on the site or on adjacent properties.

There will be no impact on Arlington's heritage with respect to the development.

11. **Microclimate.** With respect to the localized climatic characteristics of a given area, any development which proposes new structures, new hard-surface ground coverage, or the installation of machinery which emits heat, vapor, or fumes, shall endeavor to minimize, insofar as practicable, any adverse impact on light, air, and water resources, or on noise and temperature levels of the immediate environment.

There will be no adverse impact on light, air, and water resources, or on noise and temperature levels in the immediate environment of the property as a result of the Applicant's development.

12. **Sustainable Building and Site Design.** Projects are encouraged to incorporate best practices related to sustainable sites, water efficiency, energy and atmosphere, materials and resources, and indoor environmental quality.
- Applicants must submit a current Green Building Council Leadership in Energy and Environmental Design (LEED) checklist, appropriate to the type of development, annotated with narrative description that indicates how the LEED performance objectives will be incorporated into the project.
- [LEED checklists can be found at <http://www.usgbc.org/DisplayPage.aspx?CMSPageID=220b>]

The Applicant has submitted a LEED checklist appropriate to the proposed development.

In addition, projects subject to Environmental Design Review must address and meet the following Special Permit Criteria (see Section 3.3.3 of the Zoning Bylaw)

1. The use requested is listed in the Table of Use Regulations as a special permit in the district for which application is made or is so designated elsewhere in this Bylaw.

Section 5.5.3 i.e., Use Regulations for business districts.

2. The requested use is essential or desirable to the public convenience or welfare.

The current condition of the site bears all of the history of a disused automotive use not in keeping with the majority of the buildings both business and residential located on Sunnyside Ave. The proposed development will clean up the site and create an attractive building in place of the prior automotive use.

3. The requested use will not create undue traffic congestion, or unduly impair pedestrian safety.

In accordance with the traffic study of Nitsch Engineering there will be no adverse impact and no undue impairment of pedestrian safety.

4. The requested use will not overload any public water, drainage or sewer system or any other municipal system to such an extent that the requested use or any developed use in the immediate area or in any other area of the Town will be unduly subjected to hazards affecting health, safety, or the general welfare.

The request use will not overload public water, drainage or sewer system or any other municipal system in the Town.

5. Any special regulations for the use, set forth in Article 11, are fulfilled.

Any special regulations for the use, set forth in Article 11, are fulfilled

6. The requested use will not impair the integrity or character of the district or adjoining districts, nor be detrimental to the health, morals, or welfare.

The requested use will not impair the integrity or character of the district or adjoining districts, nor be detrimental to the health, morals, or welfare because the proposed development will clean up a prior disused automotive use and construct a building which will fit in harmoniously with other buildings in the neighborhood of the property.

7. The requested use will not, by its addition to a neighborhood, cause an excess of that particular use that could be detrimental to the character of said neighborhood.

The requested use will not, by its addition to a neighborhood, cause an excess of that particular use that could be detrimental to the character of said neighborhood as there is no similar use being proposed that the Applicant is aware at this time.

10 Sunnyside Ave
Arlington, MA

Environmental Impact Statement

The Applicant proposes to modify and expand the existing building currently containing approximately a 5,400 square foot automotive center located in a B4 zone in order to construct a mixed-use building development on the site with approximately 8,000 square feet of general office and approximately 20,000 square feet of residential space that will include five (5) residential condominiums.

The relief sought by the Applicant implicates Section 3.4, Environmental Design Review, Section 5.5.2 Dimensional and Density Regulations, a special permit in accordance with the mixed-use bylaw and Section 5.3.19, reduced height buffer.

With respect to Section 5.3.19, the Applicant has submitted a Google aerial depiction showing the property in the B-4 zone of the property and showing the relation of that property to residential zoning districts located near the property.

The Google aerial depiction and the comments of the Applicant's architect indicate that 10 Sunnyside Ave is located approximately 165'0" to the beginning of the R-1 zone on Michael Street looking north as denoted with a white line and arrow.

The 10 Sunnyside Ave property is located approximately 252'0" to the beginning of the R-2 zone on Sunnyside Avenue looking northeast as denoted with a yellow line and arrow shown on the Google aerial depiction.

The provisions of Section of 5.3.19 contained in the Bylaw contain the following calculations with respect to determining the height level which will apply to the Applicant's five story building as follows:

Land in R0, R1, R2, OS is located	Lower height shall apply
Between northwest and northeast	Within 200 feet
Easterly, between northeast and southeast, or westerly between northwest and southwest	Within 150 feet
Southerly, between southeast and southwest	Within 100 feet

It is the Applicants' position that the impact of the proposed five story building on residential zoning districts near the B4 zone where the 10 Sunnyside property is located would not be significant when the aforementioned zoning calculations are compared and contrasted with the aerial Google shown distances of the B4 Sunnyside Ave zone from those residential zoning districts and when viewed in the context of its plans.

The site will also include an indoor parking garage and surface parking to accommodate a total of 21 vehicle parking spaces and 34 bicycle spaces.

Access to the site will remain as existing; one curb cut off of Sunnyside Ave.

The site is bounded by a commercial property to the north, marijuana dispensary to the south, Sunnyside Ave to the east and a commercial parking lot to the west.

The lot contains 16,500 square feet of land area and the proposed development will transform a prior automobile use from a blighted site and the proposal is in line with the definition of a B4 zone as defined in Section 5.5.1 further subsection E of the Zoning Bylaw which provides as follows:

“B4: Vehicular Oriented Business District. The Vehicular Oriented Business District provides for establishments that are primarily oriented to automotive traffic, which means they require large amounts of land in proportion to building coverage. This district also consists of establishments devoted to the sale or servicing of motor vehicles, the sale of vehicular parts and accessories, and service station-Arlington has an

abundance of automotive and automotive accessory sales and service establishments. As these businesses gradually close, the Town has encouraged conversion of the property to other retail, service, office, or residential use, particularly as part of mixed-use development.”

As can be seen from the last sentence of the B4 definition, the Town has encouraged conversion of prior automotive uses to other retail, service, office, or residential use particularly as part of a mixed-use development. That objective is exactly what the Applicant’s proposal entails.

The property has 150.2 feet of frontage on Sunnyside Ave. and the proposed Floor Area Ratio (FAR) would be 1.5 while Zoning requires an FAR of 1.5.

The front yard depth is presently 4 feet, 2 inches and would remain at 4 feet, 2 inches while the side yard depth which on the right side which is currently 71 feet will be reduced to 4 feet, 11.5 inches and the left side which is currently 1 foot will continue at 1 foot.

With respect to both side yards there is no minimum zoning requirement.

The rear yard depth which is currently 0 will be enhanced to 16 feet 6¾ inches, while the zoning requirement is 16 feet, 6 inches.

The height of the building which is currently 15 feet will change to 49 feet while zoning allows a height of 60 feet and the number of stories will be 5 and zoning allows 5 stories in the B4 zone.

The proposed landscaped square feet would be 1,780 square feet and the proposed usable open square feet would be 2,643 square feet.

There will be 21 parking spaces while zoning would require 20 spaces.

The bicycle parking would be both long-term inside and short-term outside the building.

The proposed development of the 10 Sunnyside Avenue property is a unique opportunity to do both an adaptive re-use and ground up construction project.

The current garage and adjacent empty lot located on the end of Sunnyside nearest to Broadway has sat empty for quite some time. The Applicant saw this lot as an opportunity to revitalize a portion of Arlington that has long been dedicated to industrial uses. The proposed development will be a sustainable development using many “Green” features that will benefit both the office and residential aspects of the project.

The existing garage will remain intact except for the portion that housed the ramp to the basement. That will be removed. The garage itself will now house meeting space, storage space and on occasion office use for Column Health's management team. As part of this a new 1,800 square foot greenhouse is proposed for the roof of the current garage. A re-purposed shipping container will house the new café area for employees, while the existing garage roof will be covered in solar panels. The former garage was not accessible for visitors with disabilities. The proposed rehab will also include a new elevator as well as accessible toilets and an accessible route in and out of the building.

Adjacent to the garage will be a full service 5-unit condominium building. Concierge service will be provided for the Column Health team members who live in the building. This will allow tenants to utilize the car stackers within the garage without having to operate the lifts themselves. This garage is accessed via a common drive aisle that splits the office portion from the residential, allowing Fire Department access to two sides of the building. Given the properties adjacency to the bike trail, alternative transportation is an

important part of this project. A large tenant bike room is provided as well as additional bike parking in the rear of the site next to the large open green space that has been created. The building itself is a contemporary design which will be comprised mostly of Steel and Concrete, while being clad in cementitious and metal panels along with a corten steel that has been allowed to patina to a rust-colored tone. Each of the 5 dwelling units are large in size, ranging from 898 square feet to 3,982 square feet for an average of 2,355 square feet per unit. All units have expansive outdoor space with a mix of terraces, balconies, and roof decks.

Sustainability is an important aspect of this development. As previously mentioned, solar will be utilized, as well as geo-thermal heating and cooling, energy efficient windows, sustainable interior products, sedum roof installation, and roof overhangs which help to aid in the heating & cooling needs for the building. In addition, the large greenhouse is intended to help grow plants and food for the residents and workers.

A stormwater management report has been prepared by EBI Consulting and is part of the Applicant's submittal to the Board and that report indicates that the site lies within the Alewife Brook Watershed but is not located within the 100-year flood plain and is not located within a flood zone as shown on the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) for the Town of Arlington, Map# 25017C0419E, dated June 4, 2010 shown as Exhibit 3 in the stormwater management report.

The report also indicates that there are no known wetland resource areas or associated buffers located on the site.

The substance of the report also indicates that the proposed site layout will direct water runoff to drainage structures within the paved driveway with the result that there will be a decrease in impervious areas and the report also indicates that the onsite closed pipe drainage system has been designed for the 25-year storm event in accordance with Town of Arlington requirements. Details with respect to the sizing of the drainage pipes are set forth in the paragraph entitled “Hydraulic Analysis” on Page 5 of 11 of the report.

The conclusion on the part of representatives of EDI Consulting is that “the redevelopment project will result in an improvement of stormwater runoff, quality and quantity”.

The traffic study of Nitsch Engineering dated December 22, 2020 indicates in part that 3 intersections, Alewife Brook Parkway, Broadway, and Sunnyside Ave., 1 signalized and 2 unsignalized were studied to establish the impact the proposal would have on intersection traffic operations.

The crash data over the last three years available from MassDOT indicates that the intersection of Alewife Brook Parkway and Broadway was found to have a motor vehicle crash rate above the MassDOT average for the District in which the Project is located (District 4). No fatalities *were* reported at any of the study area intersections over the five-year period reviewed. In addition, the Highway Safety Improvement Program (HSIP) database was reviewed. The intersection of Alewife Brook Parkway and Broadway is listed as a HSIP cluster in the most recent (2015-2017) HSIP cluster listing. The Broadway at Sunnyside Avenue intersection is not listed as a HSIP location and has a crash rate below the MassDOT average.

The substance of the report indicates the following: “We collected turning movement counts at the three study intersections. We adjusted the counts

upward to account for the COVID-19 pandemic's effect on traffic patterns to become our baseline Existing conditions traffic volumes.”

For future conditions, we projected the Existing conditions traffic volumes over a seven-year period to the horizon year 2027 using an annual growth rate of 2.0% based on expected regional growth to become our future No-Build conditions volumes. We estimated the quantity of vehicle trips the proposed development would generate based on the Institute of Transportation Engineers (ITE) *Trip Generation, 10th Edition* criteria.”

The report further indicates: “We performed a vehicle capacity analysis to compare the weekday morning and weekday evening peak hours of the 2020 Existing conditions, 2027 No-Build conditions, and 2027 Build conditions for each of the three study intersections. Under all conditions, the intersection of Alewife Brook Parkway and Broadway will operate poorly with most of the movements operating at LOS F. However, all movements for both intersections in Build condition will continue to operate at No-Build conditions with only minor increases in delay and queuing. The intersection of Sunnyside Avenue and the site driveway will operate at LOS A for all movements.”

The traffic study concludes: “As the project is not anticipated to have a significant impact to traffic operations at the study intersections, no mitigation is recommended at this time.”

This project is intended to be something unique for Arlington, but also act as a catalyst for future developments in the immediate area of Sunnyside Avenue. The Applicant looks forward to presenting the proposed development to the Town and working together toward a successful development at the site which as stated previously will remove a blighted property from the

neighborhood and replace it with an attractive alternative and remove an automobile use which is encouraged by the provisions of Section 5.5.1, further Section B4.



LEED v4 for Building Design and Construction: Multifamily Midrise

Project Checklist

Project Name: 10 Sunnyside Avenue Residence and Office

Date: 01/07/2021

Y ? N

Credit Integrative Process

2

4 3 8 Location and Transportation 15

Y Prereq Floodplain Avoidance Required

PERFORMANCE PATH

Credit LEED for Neighborhood Development Location 15

PRESCRIPTIVE PATH

8 Credit Site Selection 8

3 Credit Compact Development 3

2 Credit Community Resources 2

2 Credit Access to Transit 2

0 5 0 Sustainable Sites 7

Y Prereq Construction Activity Pollution Prevention Required

Y Prereq No Invasive Plants Required

2 Credit Heat Island Reduction 2

3 Credit Rainwater Management 3

2 Credit Non-Toxic Pest Control 2

4 6 0 Water Efficiency 12

Y Prereq Water Metering Required

PERFORMANCE PATH

Credit Total Water Use 12

PRESCRIPTIVE PATH

6 Credit Indoor Water Use 6

4 Credit Outdoor Water Use 4

37 0 0 Energy and Atmosphere 37

Y Prereq Minimum Energy Performance Required

Y Prereq Energy Metering Required

Y Prereq Education of the Homeowner, Tenant or Building Manager Required

30 Credit Annual Energy Use 30

5 Credit Efficient Hot Water Distribution 5

2 Credit Advanced Utility Tracking 2

9 0 0 Materials and Resources 9

Y Prereq Certified Tropical Wood Required

Y Prereq Durability Management Required

1 Credit Durability Management Verification 1

5 Credit Environmentally Preferable Products 5

3 Credit Construction Waste Management 3

16 3 0 Indoor Environmental Quality 18

Y Prereq Ventilation Required

Y Prereq Combustion Venting Required

Y Prereq Garage Pollutant Protection Required

Y Prereq Radon-Resistant Construction Required

Y Prereq Air Filtering Required

Y Prereq Environmental Tobacco Smoke Required

Y Prereq Compartmentalization Required

3 Credit Enhanced Ventilation 3

3 Credit Contaminant Control 2

3 Credit Balancing of Heating and Cooling Distribution Systems 3

3 Credit Enhanced Compartmentalization 3

2 Credit Enhanced Combustion Venting 2

1 Credit Enhanced Garage Pollutant Protection 1

3 Credit Low Emitting Products 3

1 Credit No Environmental Tobacco Smoke 1

5 0 0 Innovation 6

Y Prereq Preliminary Rating Required

5 Credit Innovation 5

Credit LEED AP Homes 1

0 0 0 Regional Priority 4

Credit Regional Priority: Specific Credit 1

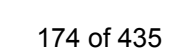
Credit Regional Priority: Specific Credit 1

Credit Regional Priority: Specific Credit 1

Credit Regional Priority: Specific Credit 1

75 17 8 TOTALS Possible Points: 110

Certified: 40 to 49 points, Silver: 50 to 59 points, Gold: 60 to 79 points, Platinum: 80 to 110




PROJECT ADDRESS:
10 SUNNYSIDE AVENUE
ARLINGTON MASSACHUSETTS

CLIENT
COLUMN HEALTH LLC
339 MASSACHUSETTS AVE
ARLINGTON, MA 02474
617-539-6780

Architectural Drawing List		
Sheet Number	Sheet Name	Sheet Issue Date
A-000	Cover Sheet	12/08/20
SV-1	Existing Conditions Plan	12/07/20
C-1	Civil Title Sheet	12/07/20
C-2	Legend and General Notes	12/07/20
C-3	Layout & Materials Plan	12/07/20
C-4	Grading & Drainage Plan	12/07/20
C-5	Utilities Plan	12/07/20
C-6	Erosion Control & Sedimentation Plan	12/07/20
C-7	Site Details 1	12/07/20
C-8	Site Details 2	12/07/20
A-020	Architectural Site Plan	12/08/20
A-021	Apartments Gross Area Plan	12/08/20
A-022	Offices Gross Area Plan	12/08/20
A-101	Residential - First Floor Plan	12/08/20
A-102	Residential - Second Floor Plan	12/08/20
A-103	Residential - Third Floor Plan	12/08/20
A-104	Residential - Fourth Floor Plan	12/08/20
A-105	Residential - Roof Deck Floor Plan	12/08/20
A-106	Commercial - Basement Floor Plan	12/08/20
A-109	Commercial - Green House / Cafe Floor Plan	12/08/20
A-110	Commercial - Roof Deck Floor Plan	12/08/20
A-300	Residential -Front Elevation	12/08/20
A-301	Residential - Rear Elevation	12/08/20
A-302	Residential - Left Side Elevation	12/08/20
A-303	Residential - Right Side Elevation	12/08/20
A-304	Commercial - Front & Rear Elevations	12/08/20
A-305	Commercial - Left & Right Elevations	12/08/20
A-306	Perspectives #1	12/08/20
A-307	Perspectives #2	12/08/20
A-308	Realistic Rendering	12/08/20
A-309	Realistic Rendering	12/08/20
A-310	Realistic Perspectives	12/08/20

ARCHITECT

D E S I G N



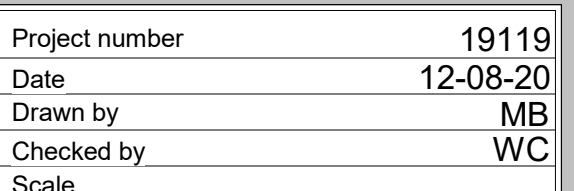
KHALSA

17 IVALOO STREET SUITE 400
SOMERVILLE, MA 02143

TELEPHONE: 617-591-8682 FAX:
617-591-2086

CONSULTANTS:

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Cover Sheet

A-000

10 SUNNYSIDE AVE

UTILITY NOTE

THE LOCATION OF ALL UNDERGROUND UTILITIES SHOWN ON THIS PLAN ARE APPROXIMATE ONLY AND ARE BASED UPON A FIELD SURVEY AND A COMPILATION OF AVAILABLE PLANS OF RECORD FROM THE VARIOUS UTILITY COMPANIES. THE INFORMATION PROVIDED IS FOR THE USE OF THE CONTRACTOR. NEITHER WARRANTY NOR GUARANTEE OF THE INFORMATION IS PROVIDED. THE CONTRACTOR SHALL VERIFY THE LOCATIONS OF ALL UTILITIES BY CONTACTING THE RESPECTIVE UTILITY COMPANIES AND "DIG-SAFE" (1-888-344-7233) PRIOR TO CONSTRUCTION.

LEGEND	
 SBH	STONE BOUND DRILL HOLE
 GM	GAS METER
 GG	GAS GATE
 WG	WATER GATE
	UTILITY POLE
	SEWER MANHOLE
	DRAIN MANHOLE
	WATER MANHOLE
 MH	MANHOLE
	MONITORING WELL
 B-1	SOIL BORING
LS	LANDSCAPING
R/W	RETAINING WALL
BB	BITUMINOUS BERM
BT CONC.	BITUMINOUS CONCRETE
CONC.	CONCRETE
CPD	CONCRETE PAD
GC	GRANITE CURB
EOP	EDGE OF PAVEMENT
PVC	POLYVINYL CHLORIDE
PL	PLASTIC
R	RIM
I	INVERT
CLF	CHAIN LINK FENCE
 OHW	OVERHEAD WIRES
 OHW	PROPERTY LINE

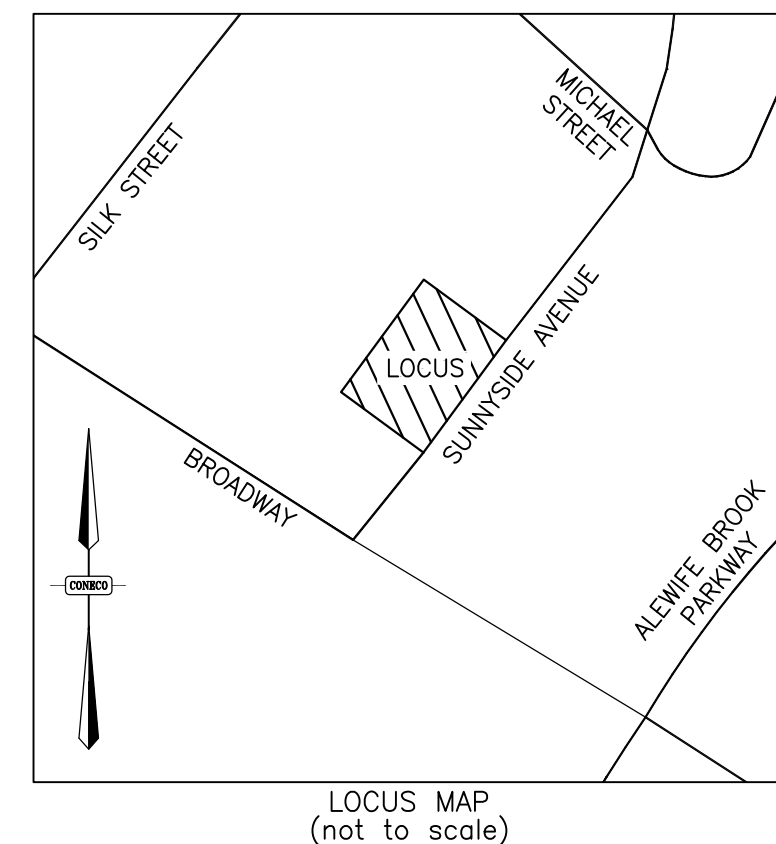
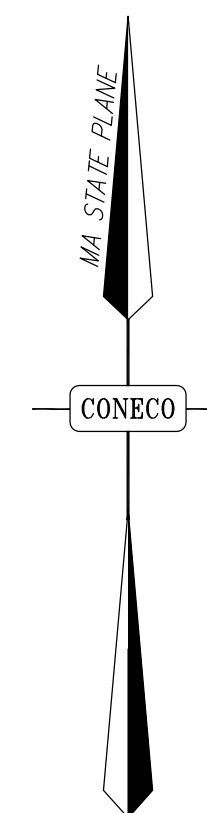
PLAN REFERENCES
1. BOOK 3202, PAGE END
2. BOOK 2637, PAGE 301
3. PLAN NO. 1177 OF 1946
4. PLAN NO. 415 OF 1947
5. PLAN NO. 345 OF 1957
6. PLAN NO. 723 OF 1955

□ SBH	STONE BOUND DRILL HOLE
○ GAS	GAS METER
○ GG	GAS GATE
○ WG	WATER GATE
○ —	UTILITY POLE
⊙	SEWER MANHOLE
⊙	DRAIN MANHOLE
⊙	WATER MANHOLE
○ MH	MANHOLE
	MONITORING WELL
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EGP	EDGE OF PAVEMENT
PVC	POLYVINYL CHLORIDE
PL	PLASTIC
R	RIM
	INVERT
CLF ———— X	CHAIN LINK FENCE
——— <i>Ohw</i> ———— <i>Ohw</i> ————	OVERHEAD WIRES
—————	PROPERTY LINE

Zoning District: "B4" Vehicular Oriented Business District

NOTES:

- I CERTIFY THAT THIS SURVEY AND PLAN CONFORMS TO THE ETHICAL, PROCEDURAL, AND TECHNICAL STANDARDS FOR THE PRACTICE OF LAND SURVEYING IN THE COMMONWEALTH OF MASSACHUSETTS.

[illegible]

LOCUS MAP
(not to scale)

OWNER OF RECORD:
MB REALTY GROUP LLC
PARCEL ID: 33-2-2.B
BOOK 73883, PAGE 259

10 SUNNYSIDE AVENUE
ARLINGTON, MA

EBI CONSULTING

JOB NO.

11157



NO.	DATE	DESCRIPTION	BY
REVISIONS			

Site Plans

for

Column Health Offices & Residences

10 Sunnyside Avenue, Arlington, MA

Issued For: Local Approvals
Date Issued: December 7, 2020

SHEET INDEX

SHEET NO.	SHEET TITLE	LATEST ISSUE
C-1	Title Sheet	12/7/2020
C-2	Legend & General Notes	12/7/2020
C-3	Layout & Materials Plan	12/7/2020
C-4	Grading & Drainage Plan	12/7/2020
C-5	Utilities Plan	12/7/2020
C-6	Erosion Control & Sedimentation Plan	12/7/2020
C-7	Site Details 1	12/7/2020
C-8	Site Details 2	12/7/2020

Reference Drawings

SHEET NO.	SHEET TITLE	LATEST ISSUE
Sv-1	Existing Conditions Plan	6/12/2015

LOCUS MAP



Source: MassGIS

PROPERTY INFORMATION

OWNER	APPLICANT
<p>Column Health LLC</p> <p>339 Massachusetts Avenue</p> <p>Arlington, MA 02474</p> <p>Tel: 617-539-6780</p> <p>www.coneco.com</p>	<p>Column Health LLC</p> <p>339 Massachusetts Avenue</p> <p>Arlington, MA 02474</p> <p>Tel: 617-539-6780</p> <p>www.coneco.com</p>

ASSESSOR'S INFORMATION

Map #033.0, Lot #0002.B

PROJECT TEAM

CIVIL ENGINEER

 **EBI Consulting**
environmental | engineering | due diligence

2 Battermarch Park, Suite 100
Quincy, MA 02169
Tel: 781-273-2500
www.ebiconsulting.com

ARCHITECT

Khalsa
17 Ivaloo Street, Suite 400
Somerville, MA 02143
Tel: (617) 591-8682

SURVEYOR

Coneco Engineers & Scientists
4 First Street
Bridgewater, MA 02324
Tel: 508-697-3191
www.coneco.com



2 Batterymarch Park, Suite 100
Quincy, MA 02169
Tel: 781.273.2500
www.ebiconsulting.com



PREPARED FOR:

Column Health LLC
Colin Beatty
339 Massachusetts Ave
Arlington, MA 02474
Tel: (617) 539-6780
cbeatty@columnhealth.com

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SUBMITTALS

[illegible]

DATE: December 7, 2020	PROJECT NUMBER: 1620000049
---------------------------	-------------------------------

PROJECT TITLE:

Column Health
Offices & Residences

10 Sunnyside Avenue
Arlington, MA 02474
Middlesex County

ISSUED FOR:
Local Approvals
(Not Approved for Construction)

SHEET TITLE:

Title Sheet






















SCALE: N.T.S.	SHEET NO: C-1
DESIGNED BY: RLB	
CHECKED BY: MFC	

1 OF 8



Dig Safe Systems, Inc.
1-888-DIG-SAFE
(1-888-344-7233)











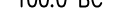

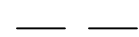
LEGEND

<u>General</u>		<u>Erosion Control</u>	
	PROPERTY LINE		EROSION CONTROL BARRIER
	RIGHT-OF-WAY		STRAW BALES
	INTERNAL LOT LINE		STABILIZED CONSTRUCTION EXIT
	ABUTTING PROPERTY LINE		SILT SACK SEDIMENT TRAP
	EASEMENT		
	BORDERING LAND SUBJECT TO FLOODING		
	BLSF		
	200' R/A		
	100' R/A		
	100' BZ		
	NO DISTURB ZONE		
	NDZ		
	LIMIT OF DISTURBANCE		
	BORING LOCATION		
	MONITORING WELL		
	TEST PIT LOCATION		
	MATCHLINE		













Layout and Materials

	BUILDING
	BUILDING ENTRANCE
	LOADING DOCK
	PARKING GARAGE
	BUILDING SETBACK
	BASELINE
	LIMIT OF WORK
	SAWCUT LINE
	GRAVEL ROAD
	EDGE OF PAVEMENT
	VERTICAL GRANITE CURB
	LIMIT OF CURB TYPE
	CONCRETE SIDEWALK
	PAVER SIDEWALK
	LANDSCAPE BUFFER
	PARKING SETBACK
	TOTAL PARKING COUNT
	STANDARD STALL COUNT
	COMPACT STALL COUNT
	ACCESSIBLE PARKING
	VAN ACCESSIBLE PARKING
	ACCESSIBLE CURB RAMP
	CROSSWALK
	PARKING BUMPER
	DIRECTIONAL SIGN
	BOLLARD
	PEDESTRIAN LIGHT POLE
	PARKING LOT LIGHT POLE
	UTILITY POLE
	GUY POLE
	OVERHEAD WIRE
	RETAINING WALL
	STONE WALL
	BARB WIRE FENCE
	CHAIN LINK FENCE
	CONSTRUCTION FENCE
	STOCKADE FENCE
	STEEL GUARDRAIL
	WOOD GUARDRAIL
	PATH
	TREE LINE

Erosion Control

	EROSION CONTROL BARRIER
	STRAW BALES
	STABILIZED CONSTRUCTION EXIT
	SILT SACK SEDIMENT TRAP
Grading	
	MAJOR CONTOUR
	MINOR CONTOUR
	SPOT ELEVATION
	DETENTION BASIN
	SWALE
	BIORETENTION AREA
	100-YEAR FLOOD ELEVATION
	10-YEAR FLOOD ELEVATION
	RIPRAP SLOPE

Drainage

	DRAIN
	ROOF DRAIN
	UNDER DRAIN
	SINGLE CATCH BASIN
	DOUBLE CATCH BASIN
	DRAIN MANHOLE
	CLEANOUT
	INSPECTION PORT
	DOWNSPOUT
	FLARED END SECTION
	HEADWALL
	RIPRAP OUTFALL

Utilities

	SEWER
	FORCE MAIN
	SEWER MANHOLE
	PLUG OR CAP
	WATER
	DOMESTIC WATER
	FIRE PROTECTION
	CURB STOP AND BOX
	FIRE HYDRANT
	POST INDICATOR VALVE
	REDUCER
	SHUT-OFF VALVE
	SIAMESE CONNECTION
	TAPPING SLEEVE AND VALVE
	WATER VALVE AND BOX
	WATER METER
	GAS
	GAS GATE
	GAS METER
	UNDERGROUND ELECTRIC
	ELECTRIC MANHOLE
	ELECTRIC METER
	TRANSFORMER PAD
	UNDERGROUND TELEPHONE
	TELEPHONE MANHOLE
	CABLE TV
	FIBER OPTICS
	CONDUIT
	HAND HOLE
	PULL BOX

ABBREVIATIONS

General		Utilities	
ACR	ACCESSIBLE CURB RAMP	ABAN	ABANDON
ADA	AMERICANS WITH DISABILITIES ACT	ADJ	ADJUST
APPROX	APPROXIMATE	CATV	CABLE TV
ARCH	ARCHITECTURAL	CIP	CAST IRON PIPE
BC	BOTTOM OF CURB	CMP	CORRUGATED METAL PIPE
BCB	BITUMINOUS CONCRETE BERM	CO	CLEANOUT
BCC	BITUMINOUS CONCRETE CURB	COND	CONDUIT
BIT	BITUMINOUS	CS	CURB STOP AND BOX
BLDG	BUILDING	DIA	DIAMETER
BLSF	BORDERING LAND SUBJECT TO FLOODING	DCB	DOUBLE CATCH BASIN
BOT	BOTTOM	DET	DETENTION
BS	BOTTOM OF SLOPE	DIP	DUCTILE IRON PIPE
BW	BOTTOM OF WALL	DMH	DRAIN MANHOLE
BWLL	BROKEN WHITE LANE LINE	DS	DOWNSPOUT
CCB	CAPE COD BERM	DW	DOMESTIC WATER
CLF	CHAIN LINK FENCE	EMH	ELECTRIC MANHOLE
CONC	CONCRETE	FA	FIRE ALARM
DPW	DEPARTMENT OF PUBLIC WORKS	FES	FLARED END SECTION
DYCL	DOUBLE YELLOW CENTER LINE	FP	FIRE PROTECTION
ECC	EXTRUDED CONCRETE CURB	FM	FORCE MAIN
ELEV	ELEVATION	FO	FIBER OPTICS
EOP	EDGE OF PAVEMENT	F&C	FRAME AND COVER
EX	EXISTING	F&G	FRAME AND GRATE
EXIST	EXISTING	GG	GAS GATE
FDN	FOUNDATION	GI	GUTTER INLET
FFE	FIRST FLOOR ELEVATION	GM	GAS METER
GRAN	GRANITE	GT	GREASE TRAP
GTD	GRADE TO DRAIN	HDPE	HIGH DENSITY POLYETHYLENE PIPE
HP	HIGH POINT	HH	HAND HOLE
LA	LANDSCAPE AREA	HW	HEADWALL
LOD	LIMIT OF DISTURBANCE	HYD	HYDRANT
LOW	LIMIT OF WORK	INF	INFILTRATION
LP	LOW POINT	INSP	INSPECTION PORT
MAX	MAXIMUM	INV	INVERT ELEVATION
MCC	MONOLITHIC CONCRETE CURB	I=	INVERT ELEVATION
ME	MATCH EXISTING	ME	METAL END SECTION
MIN	MINIMUM	MW	MONITORING WELL
NDZ	NO DISTURB ZONE	OHW	OVERHEAD WIRE
NIC	NOT IN CONTRACT	PB	PULL BOX
NTS	NOT TO SCALE	PIV	POST INDICATOR VALVE
PCC	PRECAST CONCRETE CURB	PVC	POLYVINYLCHLORIDE PIPE
PL	PROPERTY LINE	RCP	REINFORCED CONCRETE PIPE
PROP	PROPOSED	RD	ROOF DRAIN
R	RADIUS	R=	RIM ELEVATION
RA	RIVERFRONT AREA	SAS	SOIL ABSORPTION SYSTEM
REM	REMOVE	SCB	SINGLE CATCH BASIN
RET	RETAIN	SLP	SITE LIGHT POLE
ROW	RIGHT-OF-WAY	SMH	SEWER MANHOLE
R&D	REMOVE AND DISPOSE	SYS	SYSTEM
R&R	REMOVE AND RESET	TMH	TELEPHONE MANHOLE
SGE	SLOPED GRANITE EDGING	TSV	TAPPING SLEEVE, VALVE, AND BOX
SWEL	SOLID WHITE EDGE LINE	UD	UNDERDRAIN
SWLL	SOLID WHITE LANE LINE	UG	UNDERGROUND
TC	TOP OF CURB	UP	UTILITY POLE
TR	TRASH BAY	WM	WATER METER
TS	TOP OF SLOPE	WQI	WATER QUALITY INLET
TW	TOP OF WALL	WQS	WATER QUALITY STRUCTURE
Typ	TYPICAL	WV	WATER VALVE AND BOX
VGC	VERTICAL GRANITE CURB		

GENERAL NOTES

General Information:

1. CONTRACTOR SHALL NOTIFY "DIG-SAFE" (1-888-344-7233) AT LEAST 72 HOURS BEFORE EXCAVATING.
2. CONTRACTOR SHALL BE RESPONSIBLE FOR SITE SECURITY AND JOB SAFETY, CONSTRUCTION ACTIVITIES SHALL BE IN ACCORDANCE WITH OSHA STANDARDS AND LOCAL REQUIREMENTS.
3. ACCESSIBLE ROUTES, PARKING SPACES, RAMPS, SIDEWALKS, AND WALKWAYS SHALL BE CONSTRUCTED IN CONFORMANCE WITH THE FEDERAL AMERICANS WITH DISABILITIES ACT AND WITH STATE AND LOCAL LAWS AND REGULATIONS (WHICHEVER ARE MORE STRINGENT).
4. AREAS DISTURBED DURING CONSTRUCTION AND NOT RESTORED WITH IMPERVIOUS SURFACES (BUILDINGS, PAVEMENTS, WALKS, ETC.) SHALL RECEIVE 6 INCHES LOAM AND SEED.
5. WITHIN THE LIMITS OF THE BUILDING FOOTPRINT, THE SITE CONTRACTOR SHALL PERFORM EARTHWORK OPERATIONS REQUIRED TO SUBGRADE ELEVATIONS.
6. WORK WITHIN THE LOCAL RIGHTS-OF-WAY SHALL CONFORM TO LOCAL MUNICIPAL STANDARDS. WORK WITHIN STATE RIGHTS-OF-WAY SHALL CONFORM TO THE LATEST EDITION OF THE STATE HIGHWAY DEPARTMENTS STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES.
7. UPON AWARD OF CONTRACT, CONTRACTOR SHALL MAKE NECESSARY CONSTRUCTION NOTIFICATIONS AND APPLY FOR AND OBTAIN NECESSARY PERMITS, PAY FEES, AND POST BONDS ASSOCIATED WITH THE WORK INDICATED ON THE DRAWINGS, IN THE SPECIFICATIONS, AND IN THE CONTRACT DOCUMENTS. DO NOT CLOSE OR OBSTRUCT ROADWAYS, SIDEWALKS, AND FIRE HYDRANTS, WITHOUT APPROPRIATE PERMITS.
8. TRAFFIC SIGNAGE AND PAVEMENT MARKINGS SHALL CONFORM TO THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (M.U.T.C.D.).
9. AREAS OUTSIDE THE LIMITS OF PROPOSED WORK DISTURBED BY THE CONTRACTOR'S OPERATIONS SHALL BE RESTORED BY THE CONTRACTOR TO THEIR ORIGINAL CONDITION AT THE CONTRACTOR'S EXPENSE.
10. IN THE EVENT THAT SUSPECTED CONTAMINATED SOIL, GROUNDWATER, AND OTHER MEDIA ARE ENCOUNTERED DURING EXCAVATION AND CONSTRUCTION ACTIVITIES BASED ON VISUAL, OLFACTORY, OR OTHER EVIDENCE, THE CONTRACTOR SHALL STOP WORK IN THE VICINITY OF THE SUSPECT MATERIAL TO AVOID FURTHER SPREADING OF THE MATERIAL, AND SHALL NOTIFY THE OWNER IMMEDIATELY SO THAT THE APPROPRIATE TESTING AND SUBSEQUENT ACTION CAN BE TAKEN.
11. CONTRACTOR SHALL PREVENT DUST, SEDIMENT, AND DEBRIS FROM EXITING THE SITE AND SHALL BE RESPONSIBLE FOR CLEANUP, REPAIRS, AND CORRECTIVE ACTION IF SUCH OCCURS.
12. DAMAGE RESULTING FROM CONSTRUCTION LOADS SHALL BE REPAIRED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.
13. CONTRACTOR SHALL CONTROL STORMWATER RUNOFF DURING CONSTRUCTION TO PREVENT ADVERSE IMPACTS TO OFF SITE AREAS, AND SHALL BE RESPONSIBLE TO REPAIR RESULTING DAMAGES, IF ANY, AT NO COST TO OWNER.

Existing Conditions:

1. THE EXISTING CONDITIONS SHOWN ARE BASED ON THE EXISTING CONDITIONS SURVEY PREPARED BY CONECO ENGINEERS & SCIENTISTS, 4 FIRST STREET, BRIDGEWATER, MA 02324, 508-697-3191, WWW.CONECO.COM.
2. THE LOCATION OF ALL UNDERGROUND UTILITIES SHOWN HEREON ARE APPROXIMATE AND ARE BASED ON THE FIELD LOCATION OF ALL VISIBLE STRUCTURES SUCH AS CATCH BASINS, MANHOLES, WATER GATES, ETC. AND COMPILED FROM PLANS SUPPLIED BY VARIOUS UTILITY COMPANIES AND GOVERNMENT AGENCIES.

Erosion Control

1. PRIOR TO STARTING ANY OTHER WORK ON THE SITE, THE CONTRACTOR SHALL NOTIFY APPROPRIATE AGENCIES AND SHALL INSTALL EROSION CONTROL MEASURES AS SHOWN ON THE PLANS AND AS IDENTIFIED IN FEDERAL, STATE, AND LOCAL APPROVAL DOCUMENTS PERTAINING TO THIS PROJECT.
2. CONTRACTOR SHALL INSPECT AND MAINTAIN EROSION CONTROL MEASURES, AND REMOVE SEDIMENT THEREFROM ON A WEEKLY BASIS AND WITHIN TWELVE HOURS AFTER EACH STORM EVENT AND DISPOSE OF SEDIMENTS IN AN UPLAND AREA SUCH THAT THEY DO NOT ENCUMBER OTHER DRAINAGE STRUCTURES AND PROTECTED AREAS.
3. CONTRACTOR SHALL BE FULLY RESPONSIBLE TO CONTROL CONSTRUCTION SUCH THAT SEDIMENTATION SHALL NOT AFFECT REGULATORY PROTECTED AREAS, WHETHER SUCH SEDIMENTATION IS CAUSED BY WATER, WIND, OR DIRECT DEPOSIT.
4. CONTRACTOR SHALL PERFORM CONSTRUCTION SEQUENCING SUCH THAT EARTH MATERIALS ARE EXPOSED FOR A MINIMUM OF TIME BEFORE THEY ARE COVERED, SEEDED, OR OTHERWISE STABILIZED TO PREVENT EROSION.
5. UPON COMPLETION OF CONSTRUCTION AND ESTABLISHMENT OF PERMANENT GROUND COVER, CONTRACTOR SHALL REMOVE AND DISPOSE OF EROSION CONTROL MEASURES AND CLEAN SEDIMENT AND DEBRIS FROM ENTIRE DRAINAGE AND SEWER SYSTEMS.

Demolition:

1. CONTRACTOR SHALL REMOVE AND DISPOSE OF EXISTING MANMADE SURFACE FEATURES WITHIN THE LIMIT OF WORK INCLUDING BUILDINGS, STRUCTURES, PAVEMENTS, SLABS, CURBING FENCES, UTILITY POLES, SIGNS ETC. UNLESS INDICATED OTHERWISE ON THE DRAWINGS REMOVE AND DISPOSE OF EXISTING UTILITIES, FOUNDATIONS AND UNSUITABLE MATERIAL BENEATH AND FOR A DISTANCE OF 10 FEET BEYOND THE PROPOSED BUILDING FOOTPRINT INCLUDING EXTERIOR COLUMNS.
2. EXISTING UTILITIES SHALL BE TERMINATED, UNLESS OTHERWISE NOTED, IN CONFORMANCE WITH LOCAL, STATE, AND INDIVIDUAL UTILITY COMPANY STANDARD SPECIFICATIONS AND DETAILS. THE CONTRACTOR SHALL COORDINATE UTILITY SERVICE DISCONNECTS WITH THE UTILITY REPRESENTATIVES.
3. CONTRACTOR SHALL DISPOSE OF DEMOLITION DEBRIS IN ACCORDANCE WITH APPLICABLE FEDERAL, STATE AND LOCAL REGULATIONS, ORDINANCES AND STATUTES.

Layout and Materials:

1. DIMENSIONS ARE FROM THE FACE OF CURB, FACE OF BUILDING, FACE OF WALL, AND CENTER LINE OF PAVEMENT MARKINGS, UNLESS OTHERWISE NOTED.
2. CURBING SHALL BE PRECAST CONCRETE CURB (PCC) AND CURB RADII SHALL BE THREE FEET (3') WITHIN THE SITE, UNLESS OTHERWISE INDICATED ON THE SITE PLANS.
3. SEE ARCHITECTURAL DRAWINGS FOR EXIST BUILDING DIMENSIONS AND DETAILS CONTIGUOUS TO THE BUILDING, INCLUDING SIDEWALKS, RAMPS, BUILDING ENTRANCES, STAIRWAYS, UTILITY PENETRATIONS, CONCRETE DOOR PADS, COMPACTOR PAD, LOADING DOCKS, BOLLARDS, ETC.
4. PROPOSED BOUNDS AND ANY EXISTING PROPERTY LINE MONUMENTATION DISTURBED DURING CONSTRUCTION SHALL BE SET OR RESET BY A PROFESSIONAL LICENSED SURVEYOR.
5. SYMBOLS AND LEGENDS OF PROJECT FEATURES ARE GRAPHIC REPRESENTATIONS AND ARE NOT NECESSARILY SCALED TO THEIR ACTUAL DIMENSIONS OR LOCATIONS ON THE DRAWINGS. THE CONTRACTOR SHALL REFER TO THE DETAIL SHEET DIMENSIONS, MANUFACTURER'S LITERATURE, SHOP DRAWINGS AND FIELD MEASUREMENTS OF SUPPLIED PRODUCTS FOR LAYOUT OF THE PROJECT FEATURES.
6. CONTRACTOR SHALL NOT RELY SOLELY ON ELECTRONIC VERSIONS OF PLANS, SPECIFICATIONS, AND DATA FILES THAT ARE OBTAINED FROM THE DESIGNERS, BUT SHALL VERIFY LOCATION OF PROJECT FEATURES IN ACCORDANCE WITH THE PAPER COPIES OF THE PLANS AND SPECIFICATIONS THAT ARE SUPPLIED AS PART OF THE CONTRACT DOCUMENTS.

Utilities:

1. THE LOCATIONS, SIZES, AND TYPES OF EXISTING UTILITIES ARE SHOWN AS AN APPROXIMATE REPRESENTATION ONLY. THE OWNER OR ITS REPRESENTATIVES HAVE NOT INDEPENDENTLY VERIFIED THIS INFORMATION AS SHOWN ON THE PLANS. THE UTILITY INFORMATION SHOWN DOES NOT GUARANTEE THE ACTUAL EXISTENCE, SERVICEABILITY, OR OTHER DATA CONCERNING THE UTILITIES, NOR DOES IT GUARANTEE AGAINST THE POSSIBILITY THAT ADDITIONAL UTILITIES MAY BE PRESENT THAT ARE NOT SHOWN ON THE PLANS. PRIOR TO ORDERING MATERIALS AND BEGINNING CONSTRUCTION, THE CONTRACTOR SHALL VERIFY AND DETERMINE THE EXACT LOCATIONS, SIZES, AND ELEVATIONS OF THE POINTS OF ALL CONNECTIONS TO EXISTING UTILITIES AND, SHALL CONFIRM THAT THERE ARE NO INTERFERENCES WITH EXISTING UTILITIES AND THE PROPOSED UTILITY ROUTES, INCLUDING ROUTES WITHIN THE PUBLIC RIGHTS OF WAY.
2. WHERE AN EXISTING UTILITY IS FOUND TO CONFLICT WITH THE PROPOSED WORK, OR EXISTING CONDITIONS DIFFER FROM THOSE SHOWN SUCH THAT THE WORK CANNOT BE COMPLETED AS INTENDED, THE LOCATION, ELEVATION, AND SIZE OF THE UTILITY SHALL BE ACCURATELY DETERMINED WITHOUT DELAY BY THE CONTRACTOR, AND THE INFORMATION FURNISHED IN WRITING TO THE OWNER'S REPRESENTATIVE FOR THE RESOLUTION OF THE CONFLICT AND CONTRACTOR'S FAILURE TO NOTIFY PRIOR TO PERFORMING ADDITIONAL WORK RELEASES OWNER FROM OBLIGATIONS FOR ADDITIONAL PAYMENTS WHICH OTHERWISE MAY BE WARRANTED TO RESOLVE THE CONFLICT.
3. CONTRACTOR SHALL MAKE ARRANGEMENTS FOR AND SHALL BE RESPONSIBLE FOR PAYING FEES FOR POLE RELOCATION AND FOR THE ALTERATION AND ADJUSTMENT OF GAS, ELECTRIC, TELEPHONE, FIRE ALARM, AND ANY OTHER PRIVATE UTILITIES, WHETHER WORK IS PERFORMED BY CONTRACTOR OR BY UTILITIES COMPANY.
4. UTILITY PIPE MATERIALS SHALL BE AS FOLLOWS, UNLESS OTHERWISE NOTED ON THE PLAN:
 - A. STORM DRAINAGE PIPES SHALL BE POLYVINYL CHLORIDE (PVC), SDR 35 SEWER PIPE
 - B. SANITARY SEWER PIPES SHALL BE POLYVINYL CHLORIDE (PVC), SDR 35 SEWER PIPE
 - C. WATER PIPES SHALL BE COPPER TYPE K OR CEMENT LINED DUCTILE IRON, CLASS 52, AS NOTED.



2 Batterymarch Park, Suite 100
Quincy, MA 02169
Tel: 781.273.2500
www.ebiconsulting.com



PREPARED FOR:
Column Health LLC
Colin Beatty
339 Massachusetts Ave
Arlington, MA 02474
Tel: (617) 539-6780
cbeatty@columnhealth.com

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DRAWING SCALES NOTED ARE FOR 24" x 36" SIZE PRINTED MEDIA ONLY. ALL OTHER PRINTED SIZES ARE DEEMED "NOT TO SCALE".

SUBMITTALS

[illegible]

DATE:	PROJECT NUMBER
December 7, 2020	1620000049

PROJECT TITLE:
Column Health
Offices & Residences

10 Sunnyside Avenue
Arlington, MA 02474
Middlesex County

ISSUED FOR:
Local Approvals
(Not Approved for Construction)

SHEET TITLE

Legend & General Notes

SCALE:
N.T.S.

DESIGNED BY
RLB

CHECKED BY:
MFC

SHEET NO

C-2

2 OF 8



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[illegible]

PROJECT TITLE:
Column Health
Offices & Residences

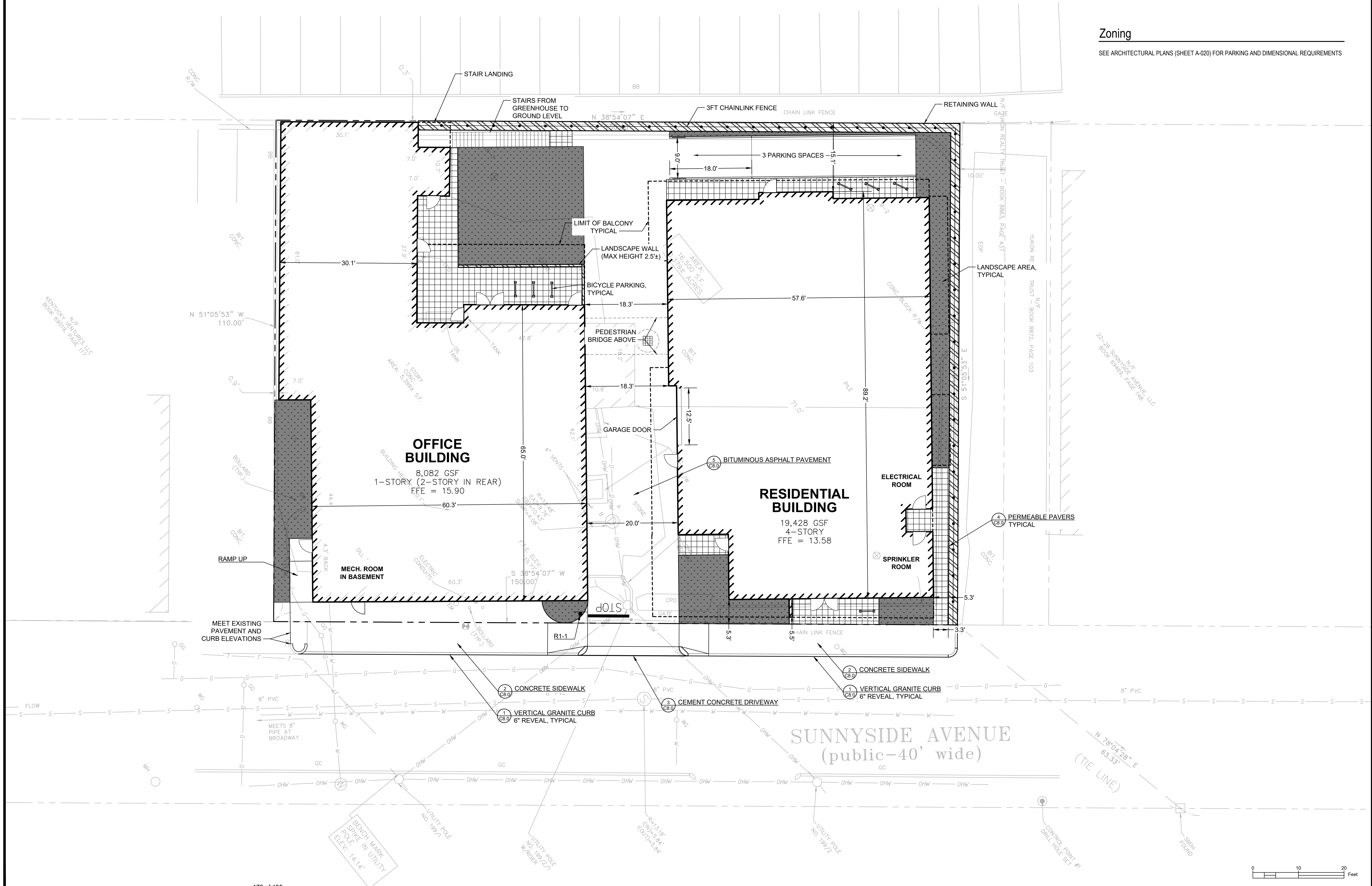
ISSUED FOR:
Local Approvals
(Not Approved for Construction)

SHEET TITLE:

Layout & Materials Plan

SCALE: 1" = 10'	SHEET NO: C-3
DESIGNED BY: RLB	
CHECKED BY: MFC	

3 OF 8





Column Health LLC
Colin Beatty
339 Massachusetts Ave
Arlington, MA 02474
Tel: (617) 539-6780
cbeatty@columnhealth.com

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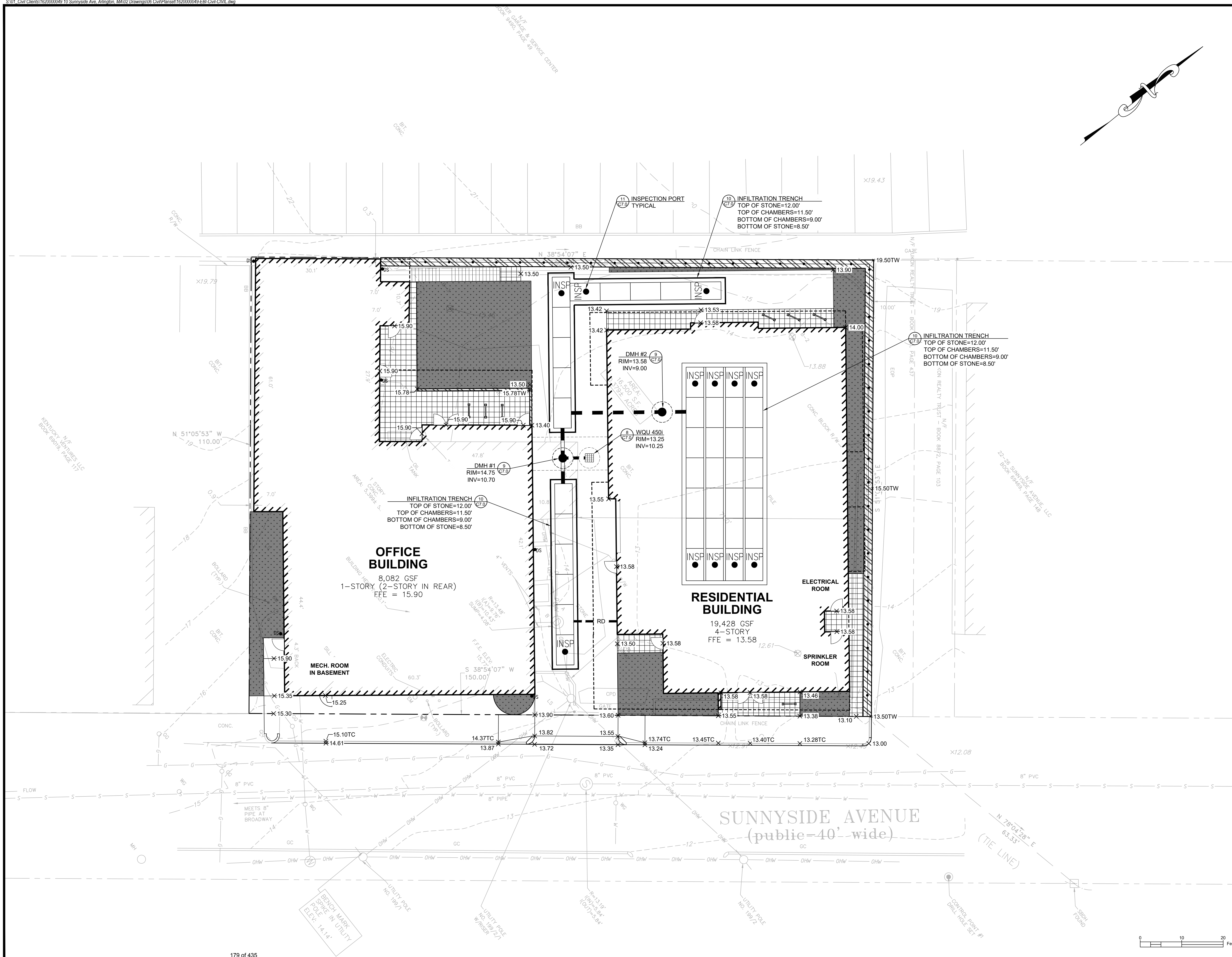
DATE: December 7, 2020	PROJECT NUMBER: 1620000049
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10 Sunnyside Avenue
Arlington, MA 02474
Middlesex County

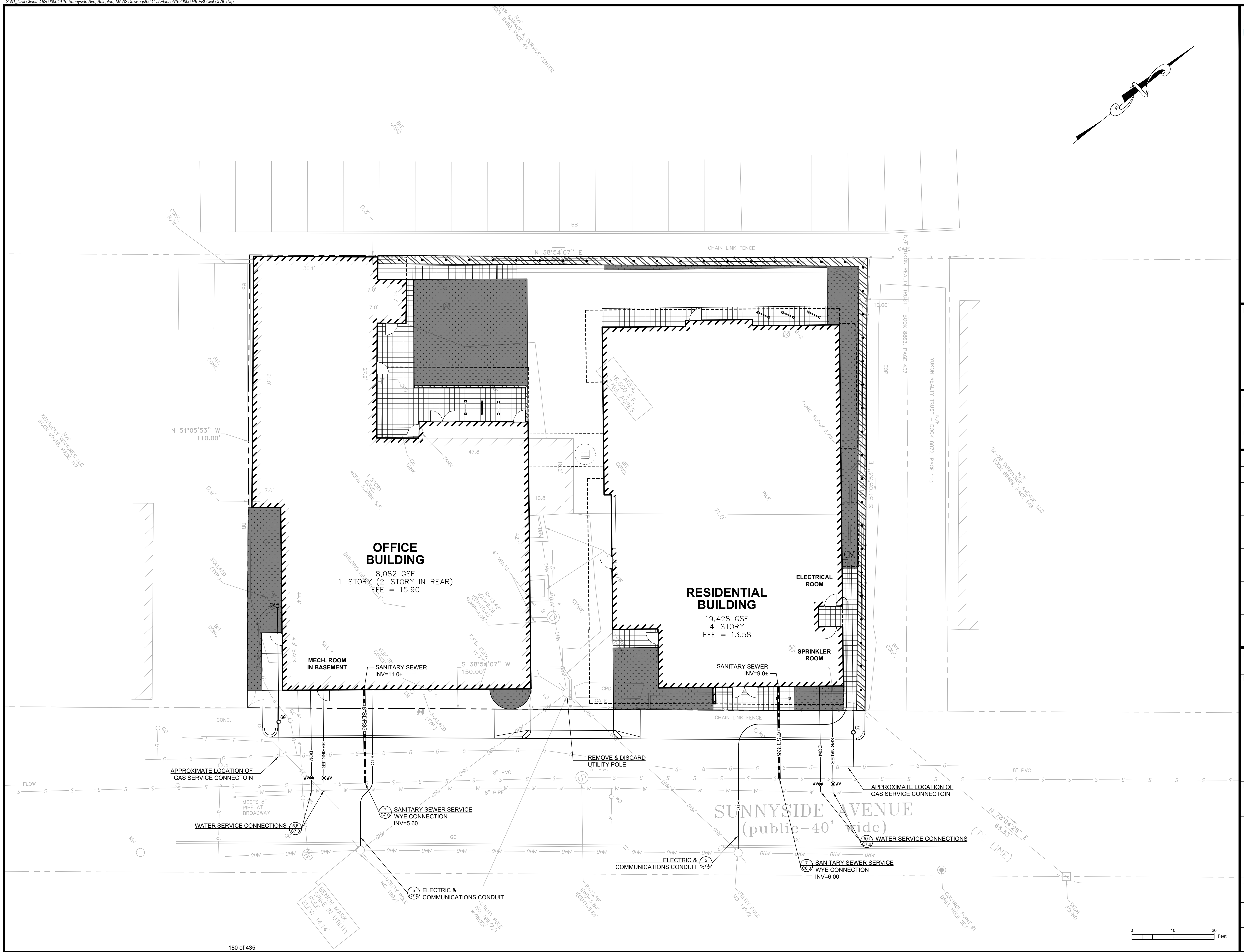
SHEET TITLE:
**Grading, Drainage, &
Erosion Control Plan**

C-4

4 OF 8



SUBMITTALS

5 OF 8



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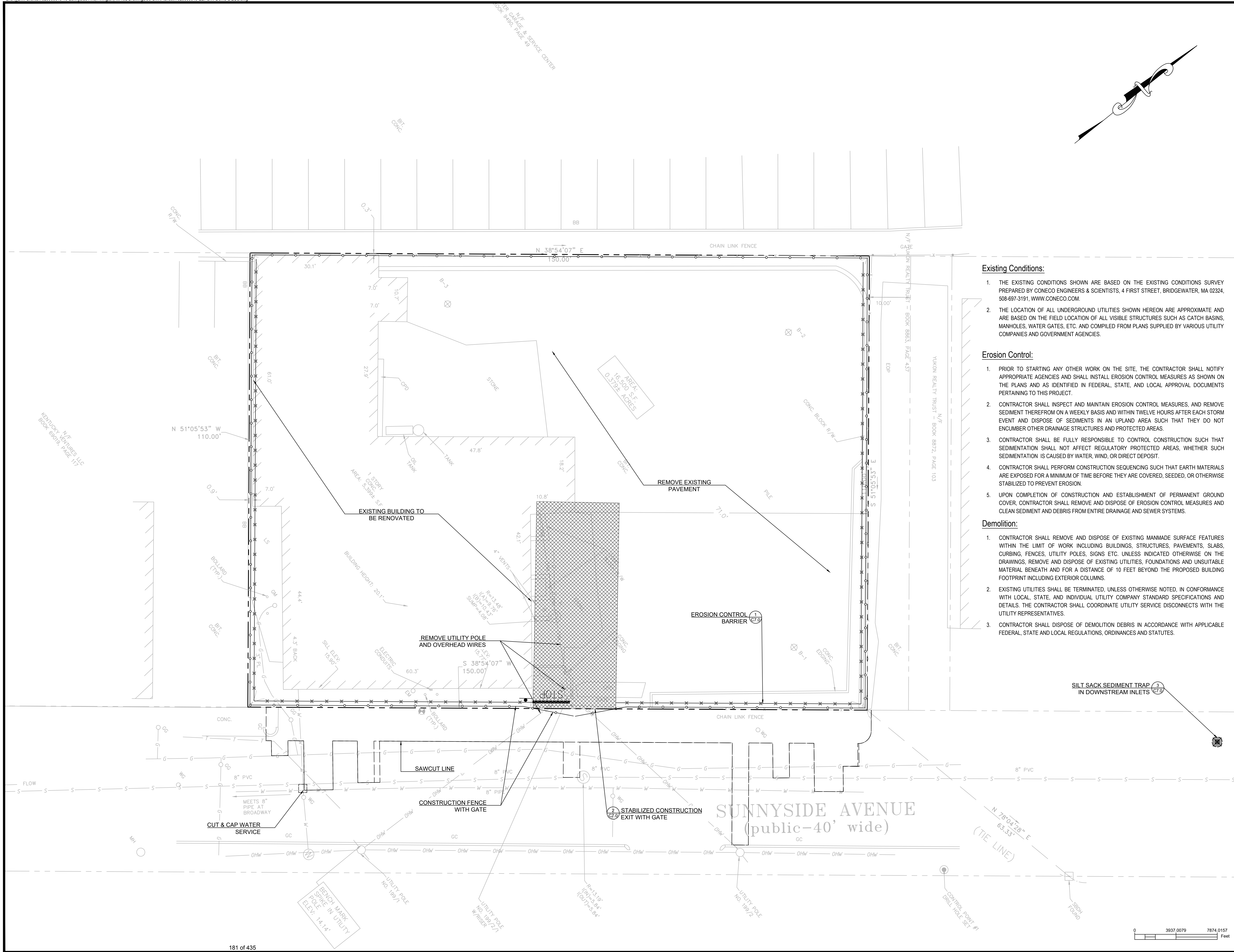
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PROJECT TITLE:
Column Health
Offices & Residences

ISSUED FOR:
Local Approvals
(Not Approved for Construction)

Demo and Sedimentation & Erosion Control Plan

SCALE: 1" = 10'	SHEET NO: C-6 3 OF 8
DESIGNED BY: RLB	
CHECKED BY: MFC	



SCALE N.T.S.

SCALE N.T.S.

SCALE: N.T.S.

N.T.S.

1. PAVEMENT SECTIONS ARE SUBJECT TO CHANGE AND WILL BE BASED ON THE RESULTS OF FURTHER GEOTECHNICAL INVESTIGATIONS.

SCALE: N.T.S.

2 Batterymarch Park, Suite 100
Quincy, MA 02169
Tel: 781.273.2500
www.ebiconsulting.com

Column Health LLC
Colin Beatty
339 Massachusetts Ave
Arlington, MA 02474
Tel: (617) 539-6780
cbeatty@columnhealth.com

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[illegible]

Column Health
Offices & Residences

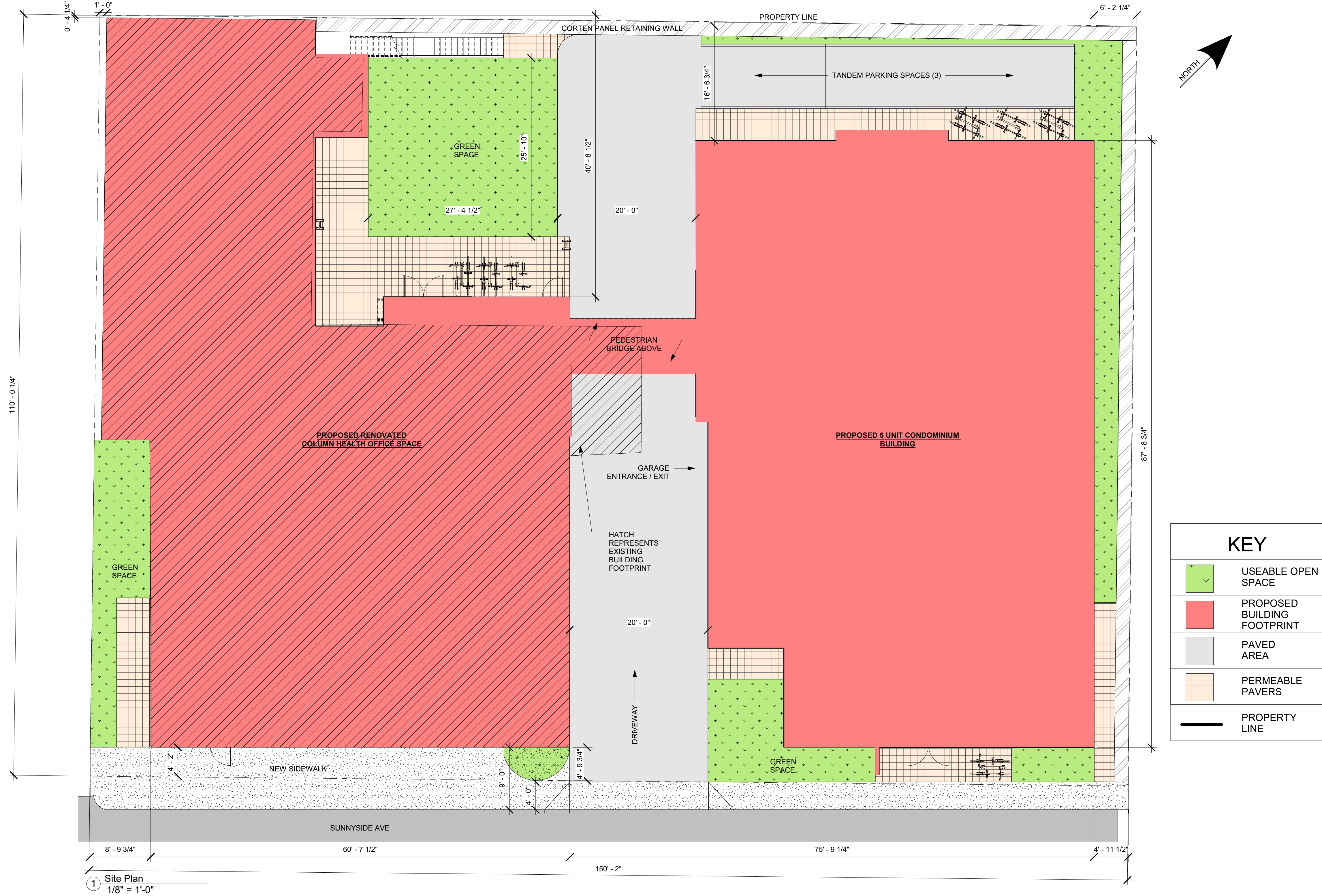
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Middlesex County

ISSUED FOR:
Local Approvals
(Not Approved for Construction)

Site Details 2

SCALE: N.T.S.	SHEET NO: C-8
DESIGNED BY: RLB	
CHECKED BY: MFC	

8 OF 8



ZONING DESIGNATION

B4: Vehicular Oriented Business District. The Vehicular Oriented Business District provides for establishments that are primarily oriented to automotive traffic, which means they require large amounts of land in proportion to building coverage. This district also consists of establishments devoted to the sale or servicing of motor vehicles, the sale of vehicular parts and accessories, and service stations. Arlington has an abundance of automotive and automotive accessory sales and service establishments. As these businesses gradually close, the Town has encouraged conversion of the property to other retail, service, office, or residential use, particularly as part of mixed-use development.

DISTRICT USE	MIN LOT AREA SF	MIN LOT AREA PER DU	MIN LOT FRONTAGE
B4			
MIXED USE <= 20,000 SF	N/A	N/A	50'-0" (150'-2" existing)

FRONT YARD (0'-0")	SIDE YARD (0'-0")	REAR YARD (10' +L/10)
VARIES (4'-2" - 5'-0")	1'-0" (L) / 4'-11 1/2" (R)	16'-6 3/4" (CONDO) / (+/- 4" EXISTING GARAGE)

OPEN SPACE N/A	USABLE OPEN SPACE
1,780 SF (10.8%)	1,780 SF @ GRADE / 645 SF GREENHOUSE / 218 SF GREEN ROOF

MAX HEIGHT: 60'-0"	MAX STORIES: 5 STORIES
49'-0" ROOF / 60'-0" TOP OF HEADHOUSE	4 STORIES + PRIVATE ROOF DECK LEVEL

MAXIMUM FLOOR AREA RATIO (FAR) 1.5 - 16,500 x 1.5 = 24,750 SF ADD 5% FAR FOR AVERAGE UNIT SIZE EXCEEDING 1,100 SF (ADDITIONAL 1,237 SF) ADD 2 SF FOR EVERY 1 SF OF OPEN SPACE IN EXCESS OF REQUIREMENT (ADDITIONAL 1,704 SF) TOTAL ALLOWED FAR = 27,691 SF
19,428 SF (CONDO BUILDING) + 8,082 SF (OFFICE BUILDING) = 27,510 SF

PARKING REQUIREMENTS: 2 SPACES PER 3 BED UNIT / 1.5 SPACES FOR 1&2 BED UNIT / 1 SPACE PER 500 SF OF OFFICE SPACE
3 RESIDENTIAL UNITS x 2 SPACES = 6 SPACES + 2 RESIDENTIAL UNITS x 1.5 SPACES = 3 SPACES (TOTAL OF 9 SPACES FOR RESIDENTIAL) 5,145 SF OF OFFICE/ 500 SF = 11 SPACES (20 TOTAL)
21 SPACES PROVIDED

BICYCLE PARKING: 1.5 PER DWELLING UNIT LONG TERM / .10 PER DWELLING UNIT SHORT TERM
8 BIKE SPACES LONG TERM + .5 SHORT TERM = 9 BIKE SPACES (14 SPACES PROVIDED)

BICYCLE PARKING: .30 SPACES PER 1,000 SF LONG TERM / .50 SPACES PER 1,000 SF
8.72 x .30 = 3 BIKE SPACES + 8.72 x .50 = 4 BIKE SPACES (7 TOTAL) (20 SPACES PROVIDED)

5.3.19. REDUCED HEIGHT BUFFER

When two different maximum height limits are specified for the same zoning district in any Table of Dimensional and Density Regulations in this Section 5, the lower limit shall apply to any lot or part of a lot located in a height buffer area unless it is determined as a specific finding of a special permit that the properties in the adjacent R0, R1, R2, or OS district would not be adversely affected due to existing use or topographic condition. A height buffer area is defined as a lot or part of a lot which is located at a lesser distance from any land, not within a public way, in an R0, R1, R2 or OS district than the following:

Land in R0, R1, R2, OS is located	Lower height shall apply
Between northwest and northeast	Within 200 feet
Easterly, between northeast and southeast, or westerly between northwest and southwest	Within 150 feet
Southerly, between southeast and southwest	Within 100 feet

(SEE SHEET A-020.1 FOR LOCUS OF PROPOSED DEVELOPMENT IN RELATION TO (R) PROPERTIES)

PROJECT NAME

10 SUNNYSIDE AVE

PROJECT ADDRESS

10 Sunnyside Ave
Arlington MA

CLIENT

Column Health LLC

ARCHITECT




KHALSA

17 IVALOO STREET SUITE 400
SOMERVILLE, MA 02143
TELEPHONE: 617-591-8682 FAX:
617-591-2086

CONSULTANTS:

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REGISTRATION



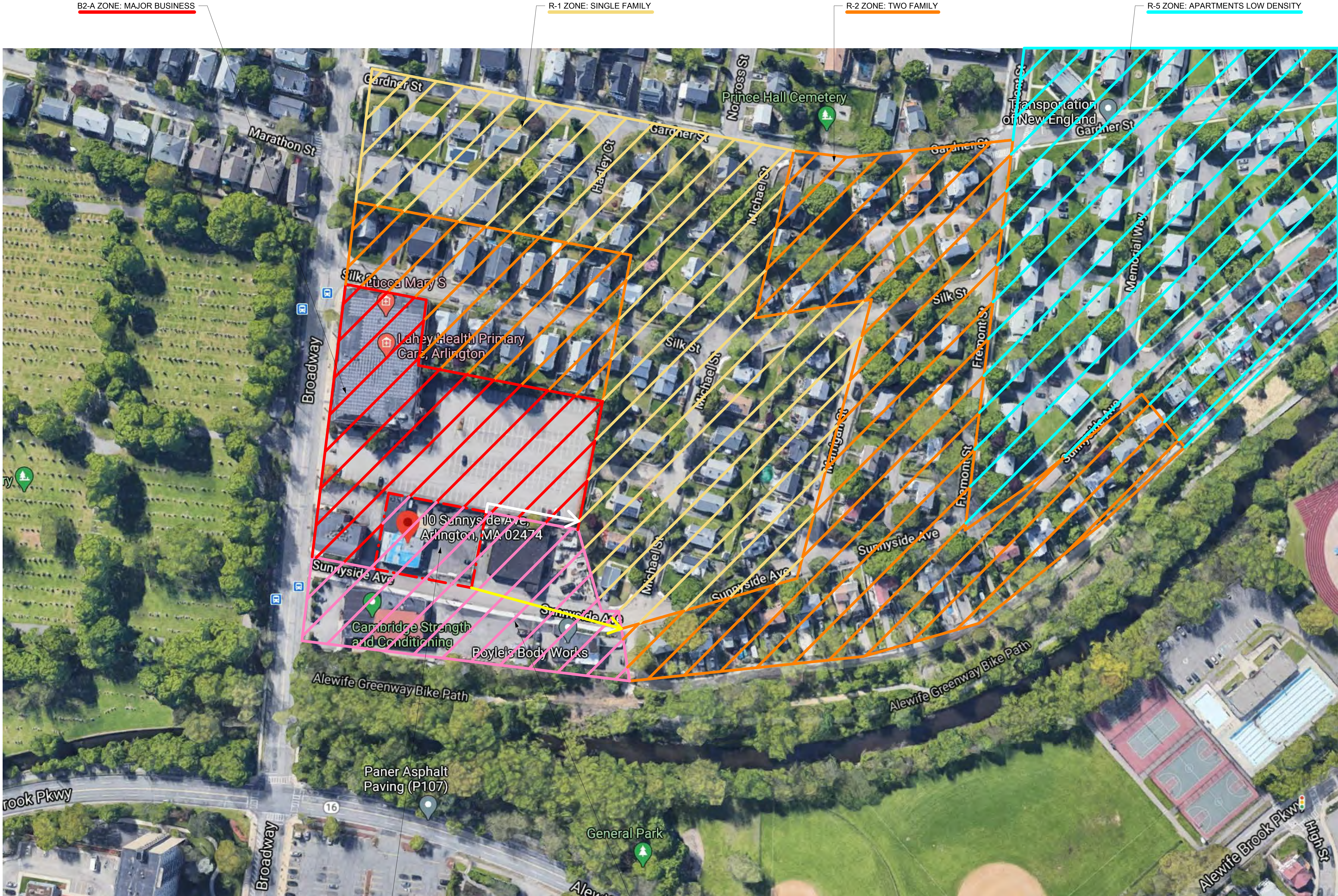
Project number	19119
Date	12-08-20
Drawn by	MB
Checked by	WC
Scale	As indicated

No.	Description	Date

Architectural Site
Plan

A-020

10 SUNNYSIDE AVE



B2-A ZONE: MAJOR BUSINESS

R-1 ZONE: SINGLE FAMILY

R-2 ZONE: TWO FAMILY

R-5 ZONE: APARTMENTS LOW DENSITY

PROJECT NAME

10 SUNNYSIDE AVE

PROJECT ADDRESS

10 Sunnyside Ave
Arlington MA

CLIENT

Column Health LLC

ARCHITECT



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SOMERVILLE, MA 02143
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REGISTRATION



Project number	19119
Date	12-08-20
Drawn by	Author
Checked by	Checker
Scale	1/4" = 1'-0"

REVISIONS

No.	Description	Date

SITE LOCUS &
ZONING

A-020.1

10 SUNNYSIDE AVE

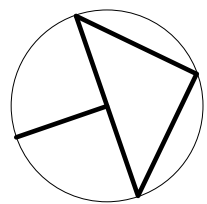
1 LOCUS
1/4" = 1'-0"

PROJECT LOCATION
10 SUNNYSIDE AVENUE

B4 ZONE: VEHICULAR ORIENTED BUSINESS

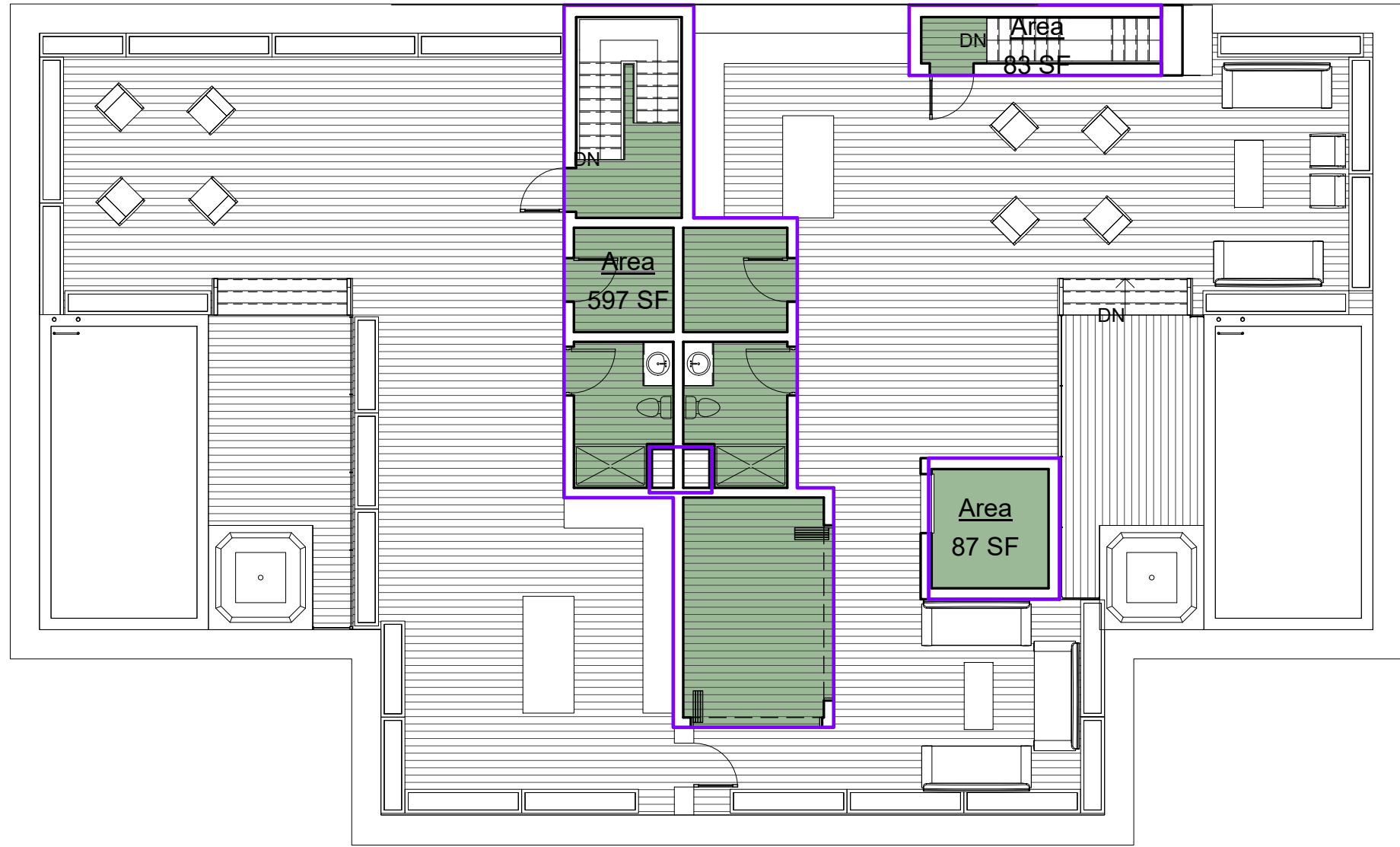
10 SUNNYSIDE IS LOCATED APPROXIMATELY 165'-0" TO THE BEGINNING OF THE R-1 ZONE ON MICHAEL STREET LOOKING NORTH
(DENOTED WITH WHITE LINE & ARROW)

10 SUNNYSIDE IS LOCATED APPROXIMATELY 252'-0" TO THE BEGINNING OF THE R-2 ZONE ON SUNNYSIDE AVENUE LOOKING NORTHEAST
(DENOTED WITH YELLOW LINE & ARROW)



Building Area Legend

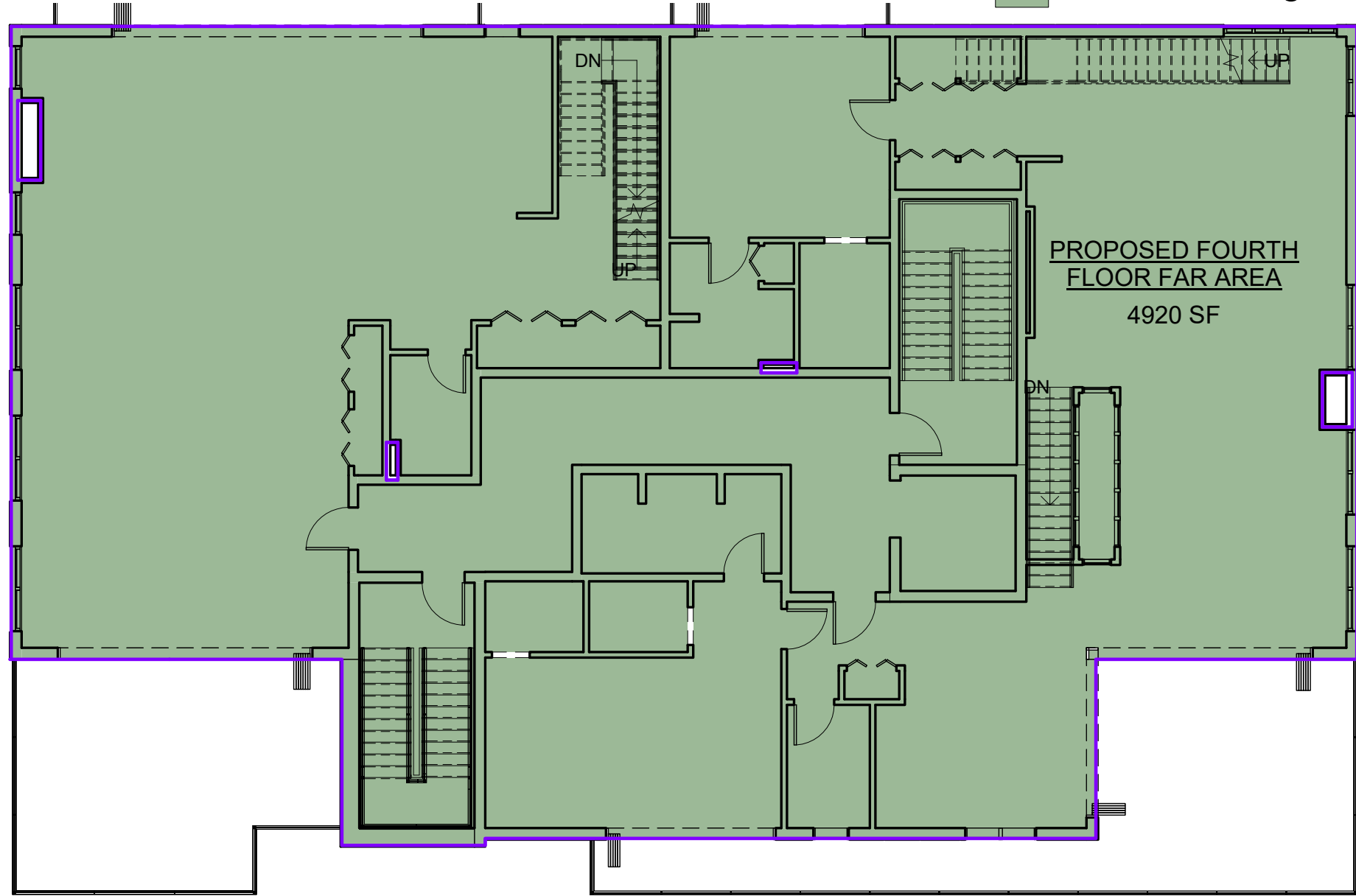
Gross Building Area



5 - Residential Roof Deck Level
1" = 10'-0"

Building Area Legend

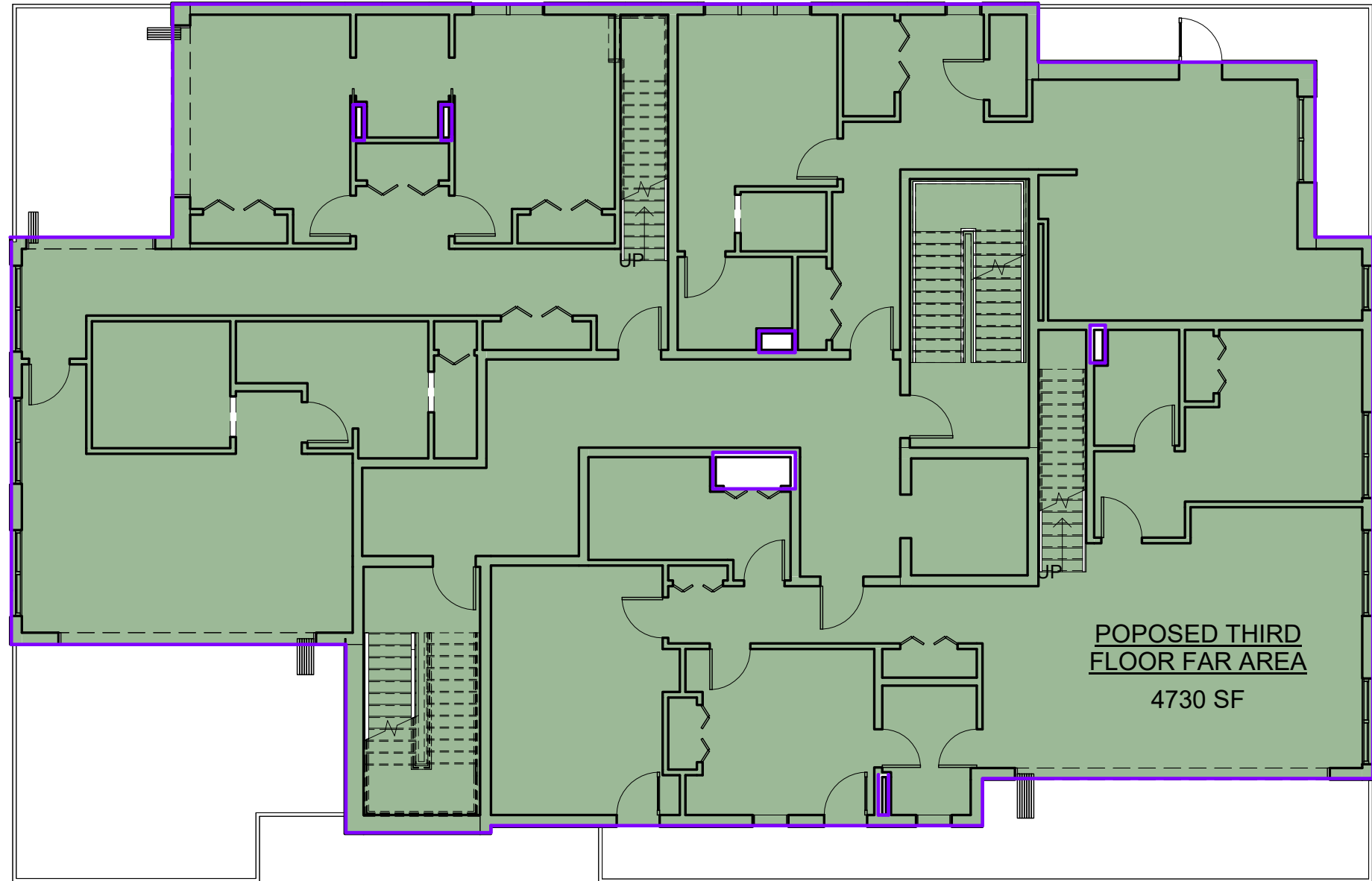
Gross Building Area



4 - Residential 4th Floor Level
1" = 10'-0"

Building Area Legend

Gross Building Area



3 - Residential 3rd Floor Level
1" = 10'-0"

Building Area Legend

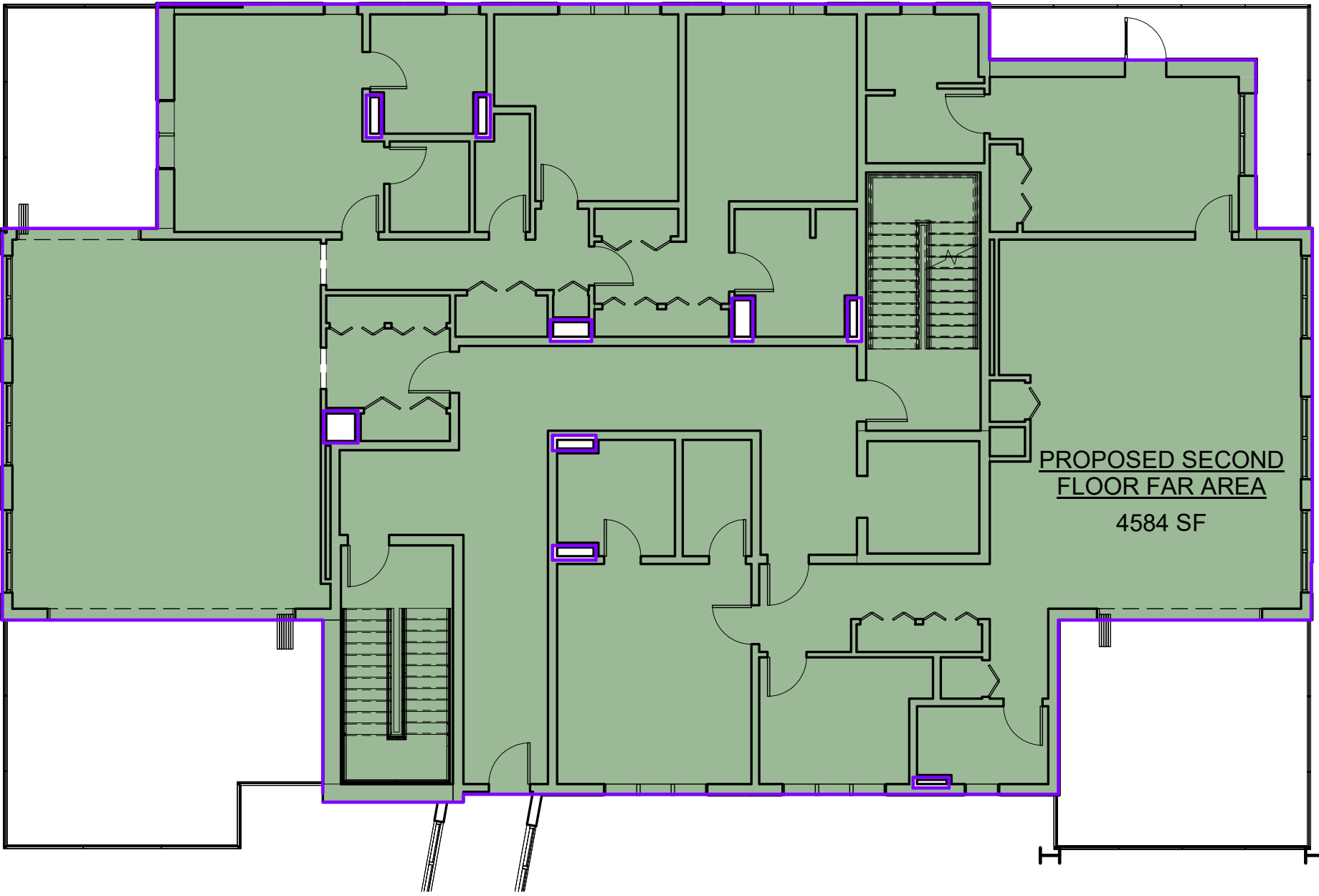
Gross Building Area



1 FIRST FLOOR
1" = 10'-0"

Building Area Legend

Gross Building Area



2 - Residential 2nd Floor Level
1" = 10'-0"

TOTAL BUILDING GROSS SF = 19,428 SF

PROJECT NAME

10 SUNNYSIDE AVE

PROJECT ADDRESS

10 Sunnyside Ave
Arlington MA

CLIENT

Column Health LLC

ARCHITECT



17 IVALOO STREET SUITE 400
SOMERVILLE, MA 02143
TELEPHONE: 617-591-8682 FAX:
617-591-2086

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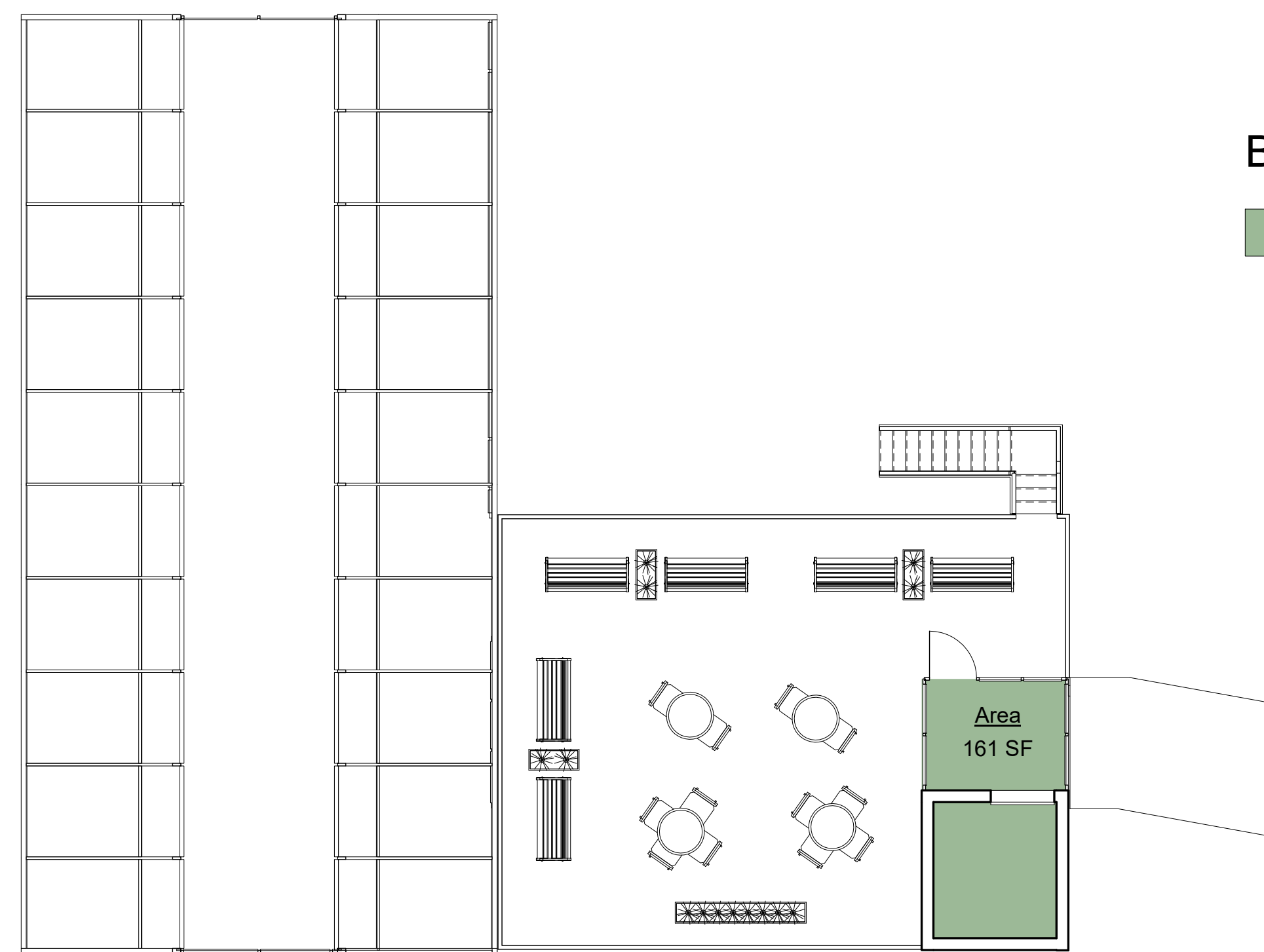
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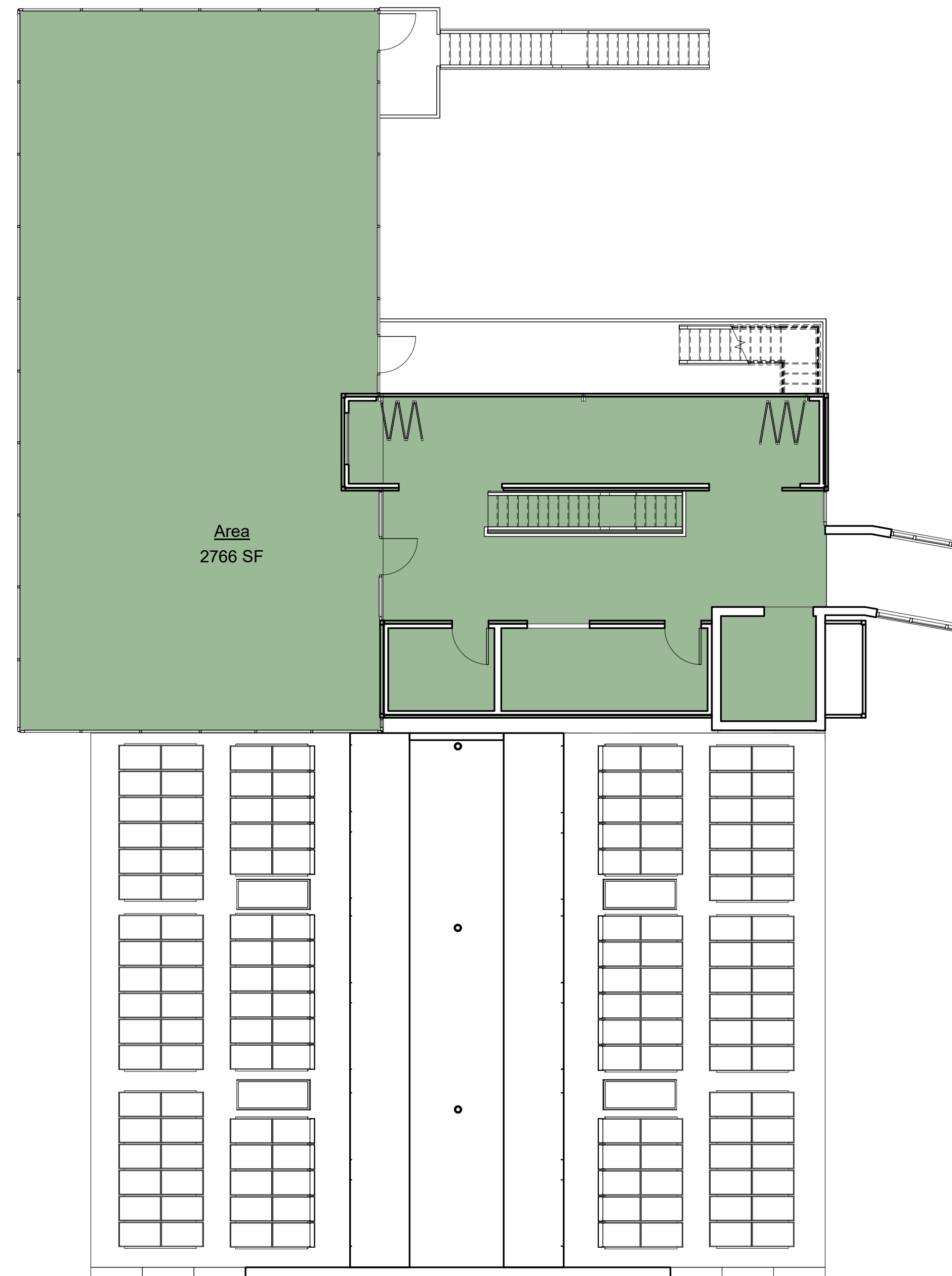
Apartments Gross
Area Plan

A-021

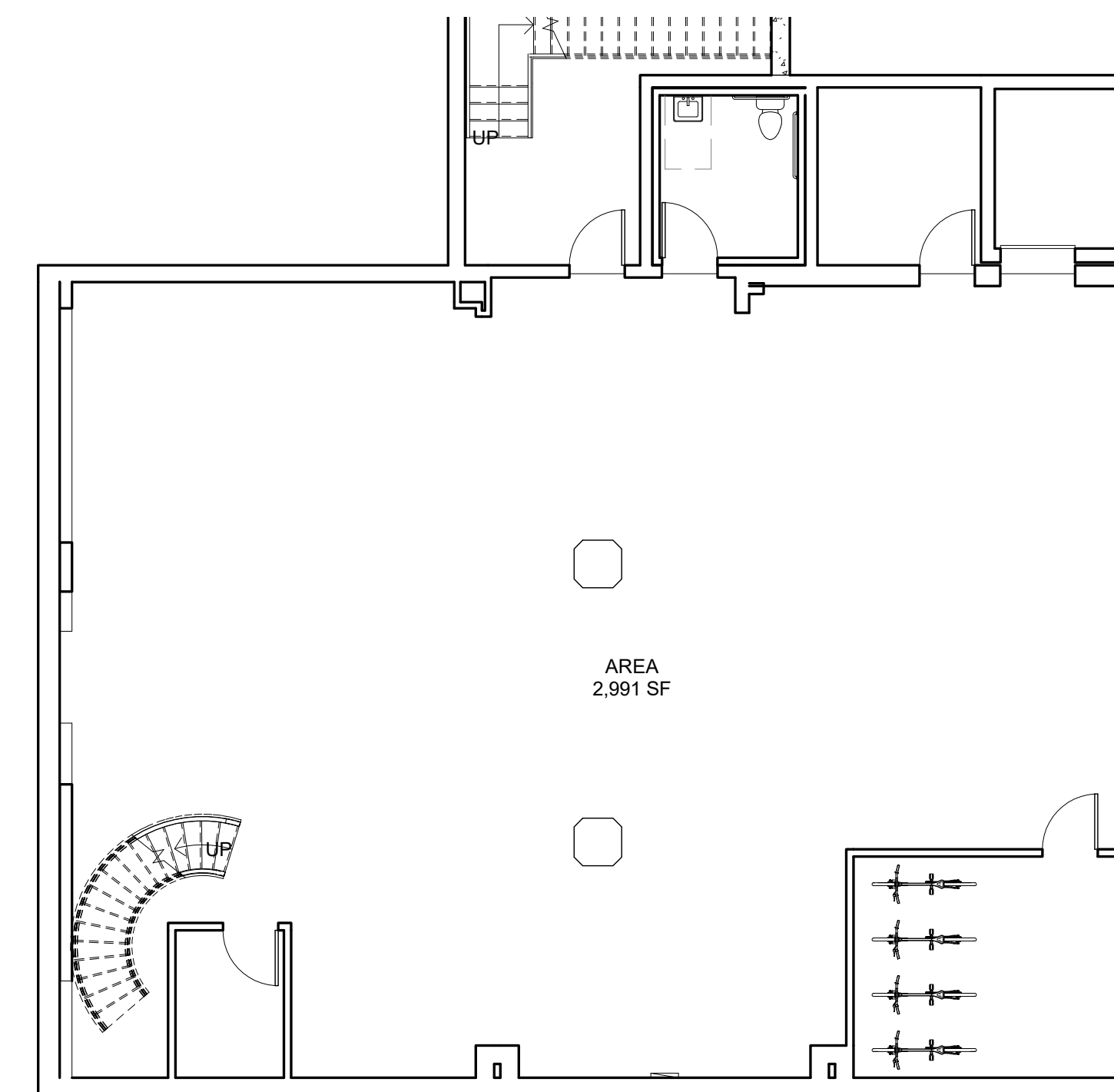
10 SUNNYSIDE AVE



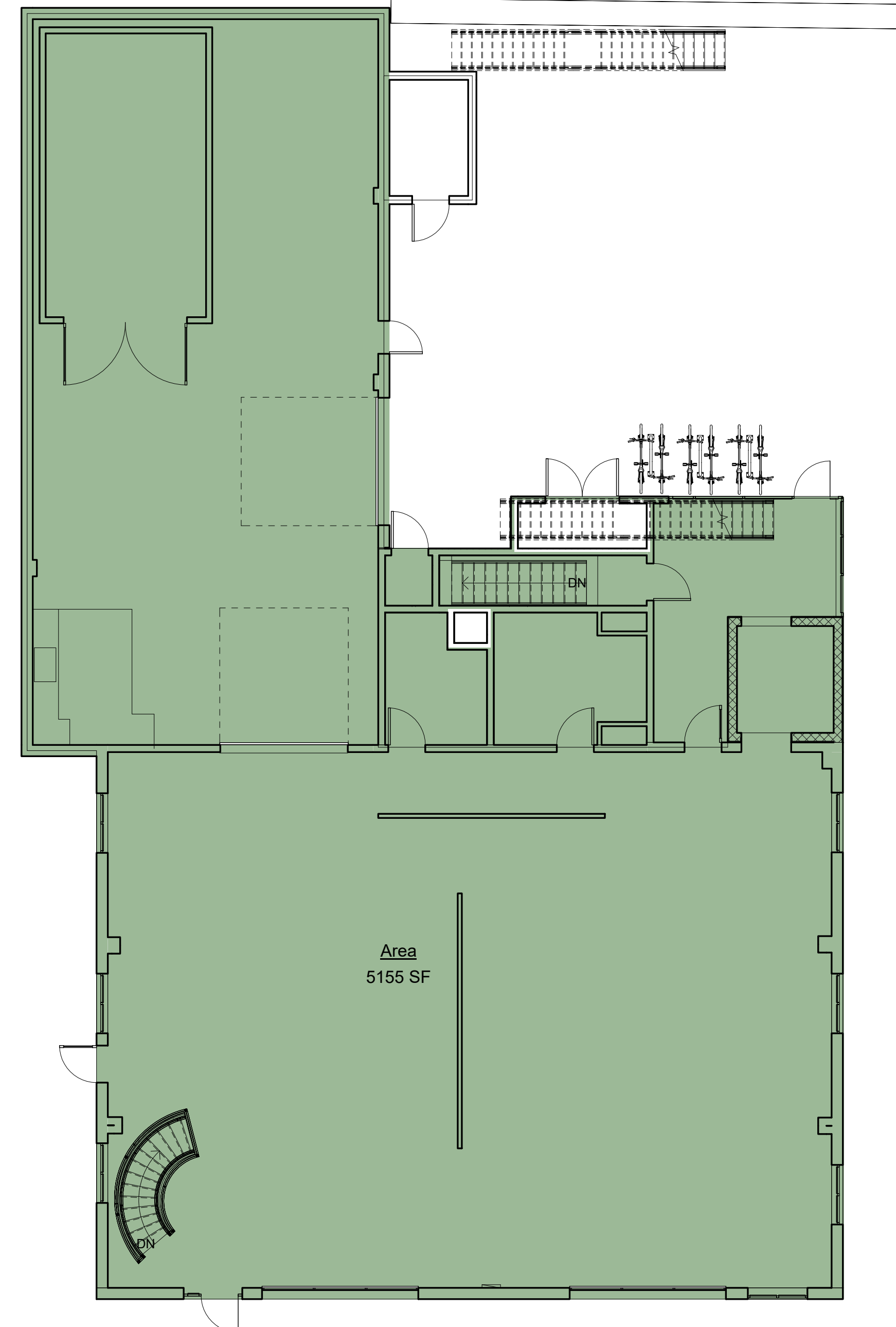
④ Roof Deck Level
1/8" = 1'-0"



③ G.H./CAFE LEVEL
1/8" = 1'-0"



① Basement Level
1/8" = 1'-0"



Building Area Legend

TOTAL BUILDING GROSS SF = 8,082 SF

PROJECT NAME

**10 SUNNYSIDE
AVE**

PROJECT ADDRESS

10 Sunnyside Ave
Arlington MA

CLIENT

Column Health LLC

ARCHITECT



17 IVALOO STREET SUITE 400
SOMERVILLE, MA 02143
TELEPHONE: 617-591-8682 FAX:
617-591-2086

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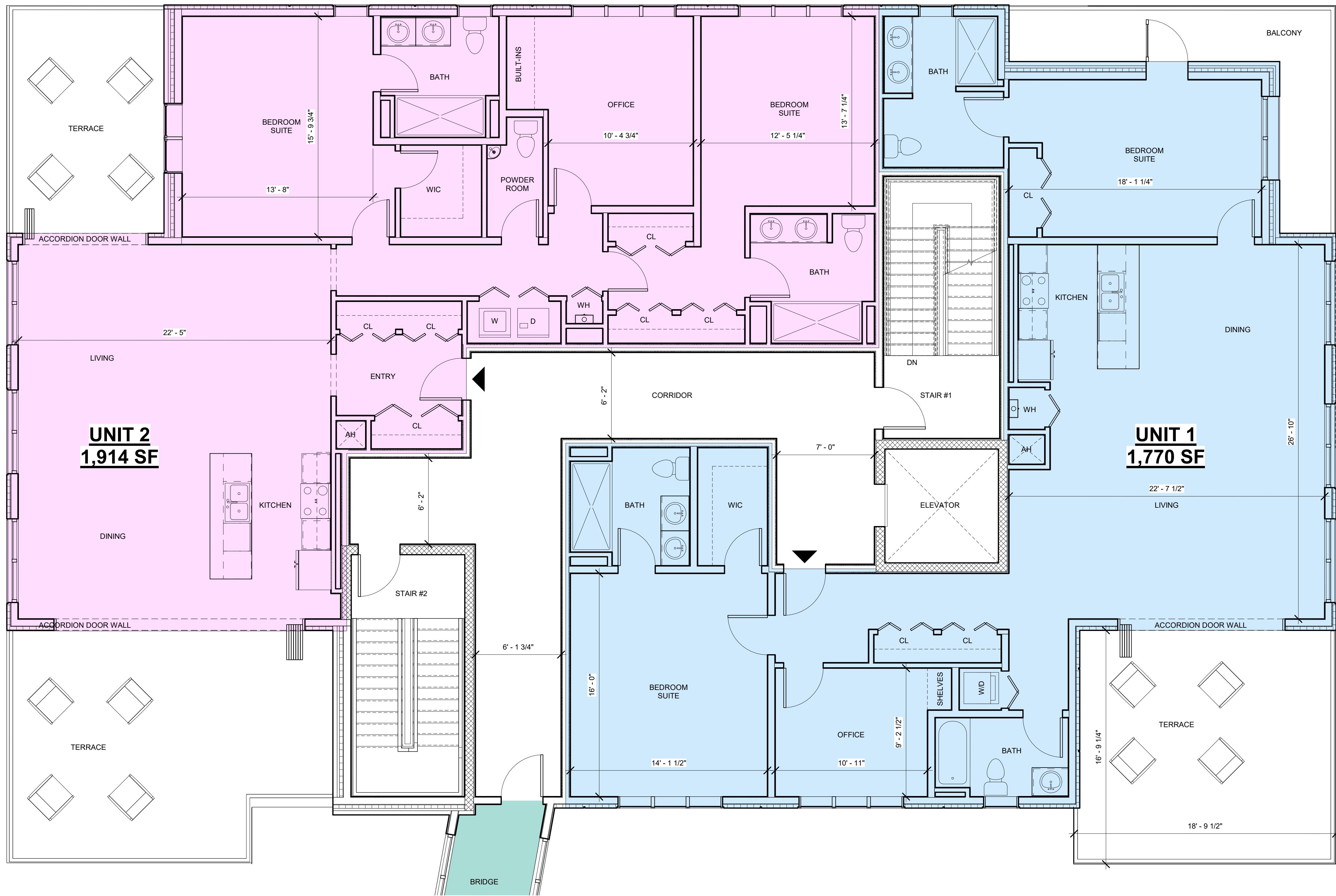
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Scale	1/8" = 1'-0"

REVISIONS

[illegible]Offices Gross Area
Plan

A-022

10 SUNNYSIDE AVE



① 2 - Residential 2nd Floor Level
1/4" = 1'-0"

PROJECT NAME
**10 SUNNYSIDE
AVE**

PROJECT ADDRESS
10 Sunnyside Ave
Arlington MA

CLIENT

Column Health LLC

ARCHITECT


KHALSA

17 IVALOO STREET SUITE 400
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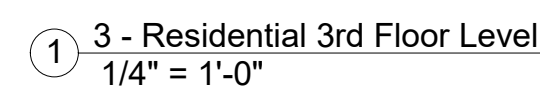
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No.	Description	Date

Residential -
Second Floor Plan

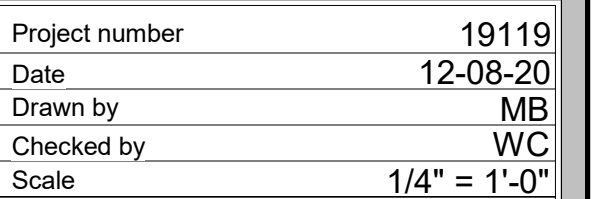
A-102

10 SUNNYSIDE AVE



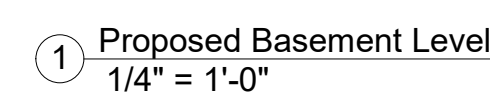




REGISTRATION

[illegible]

A-105

0 SUNNYSIDE AVE



WALL TYPE	
	EXISTING WALL
	PROPOSED WALL

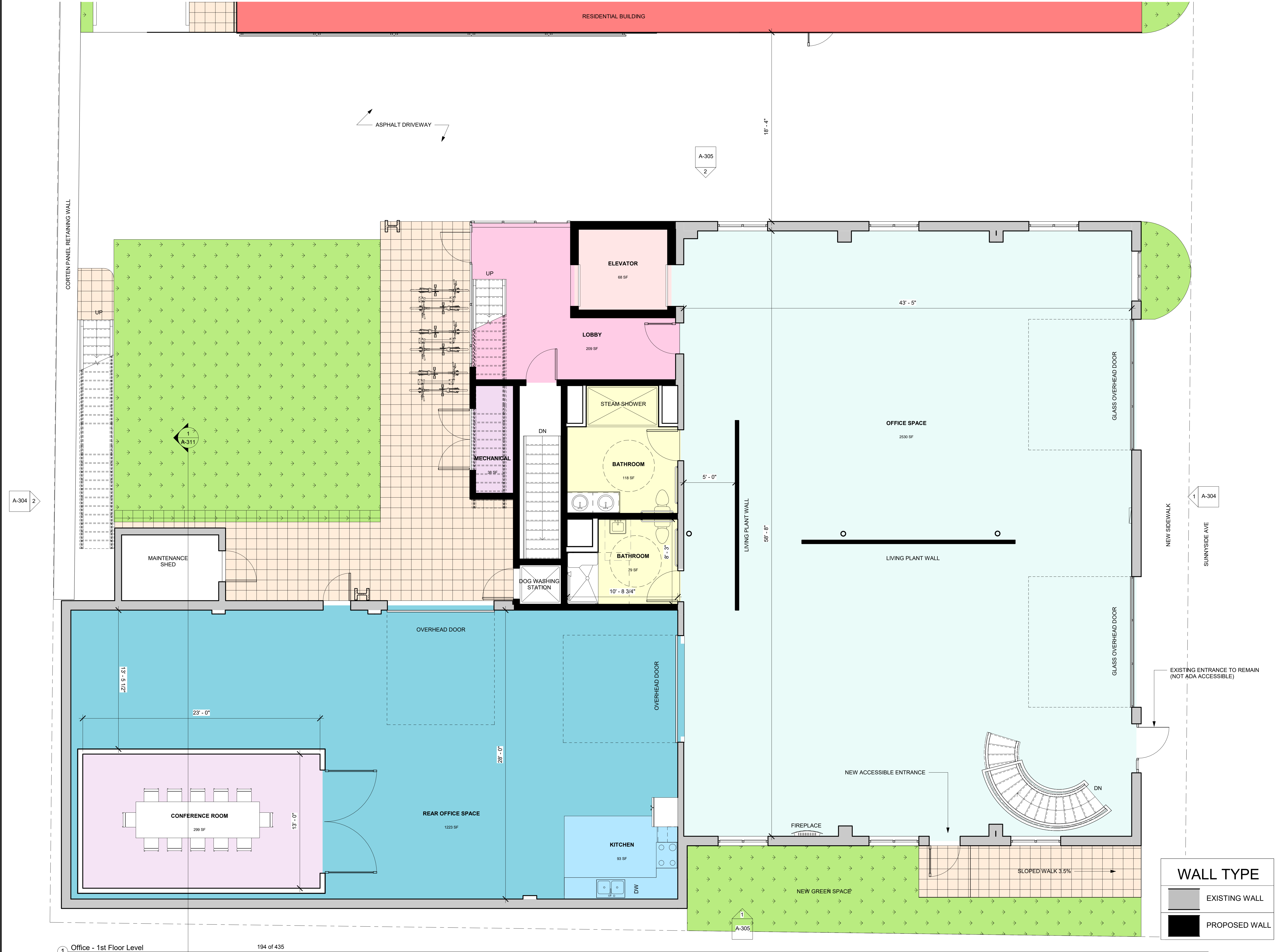
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REVISIONS

[illegible]

A-106
10 SUNNYSIDE AVE




PROJECT NAME
10 SUNNYSIDE AVE

PROJECT ADDRESS
10 Sunnyside Ave
Arlington MA

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ARCHITECT



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No.	Description	Date

Commercial - First
Floor Plan

A-107

10 SUNNYSIDE AVE

\\TKG-SERVER\\Data\\19119\\19119_10 Sunnyside Arlington - Beatty Column Health\\03 Drawings\\00_ARCH\\SD_DD10 Sunnyside Ave SD Condo - OPTION 6.rvt 12/8/2020 10:51:12 AM

① Proposed Roof Deck Level
1/4" = 1'-0"

PROJECT NAME

**10 SUNNYSIDE
AVE**

PROJECT ADDRESS

10 Sunnyside Ave
Arlington MA

CLIENT

Column Health LLC

ARCHITECT



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REVISIONS

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Commercial - Roof Deck Floor Plan

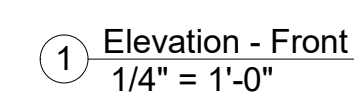
A-110

10 SUNNYSIDE AVE

**10 SUNNYSIDE
AVE**

Column Health LLC

0 SUNNYSIDE AVE



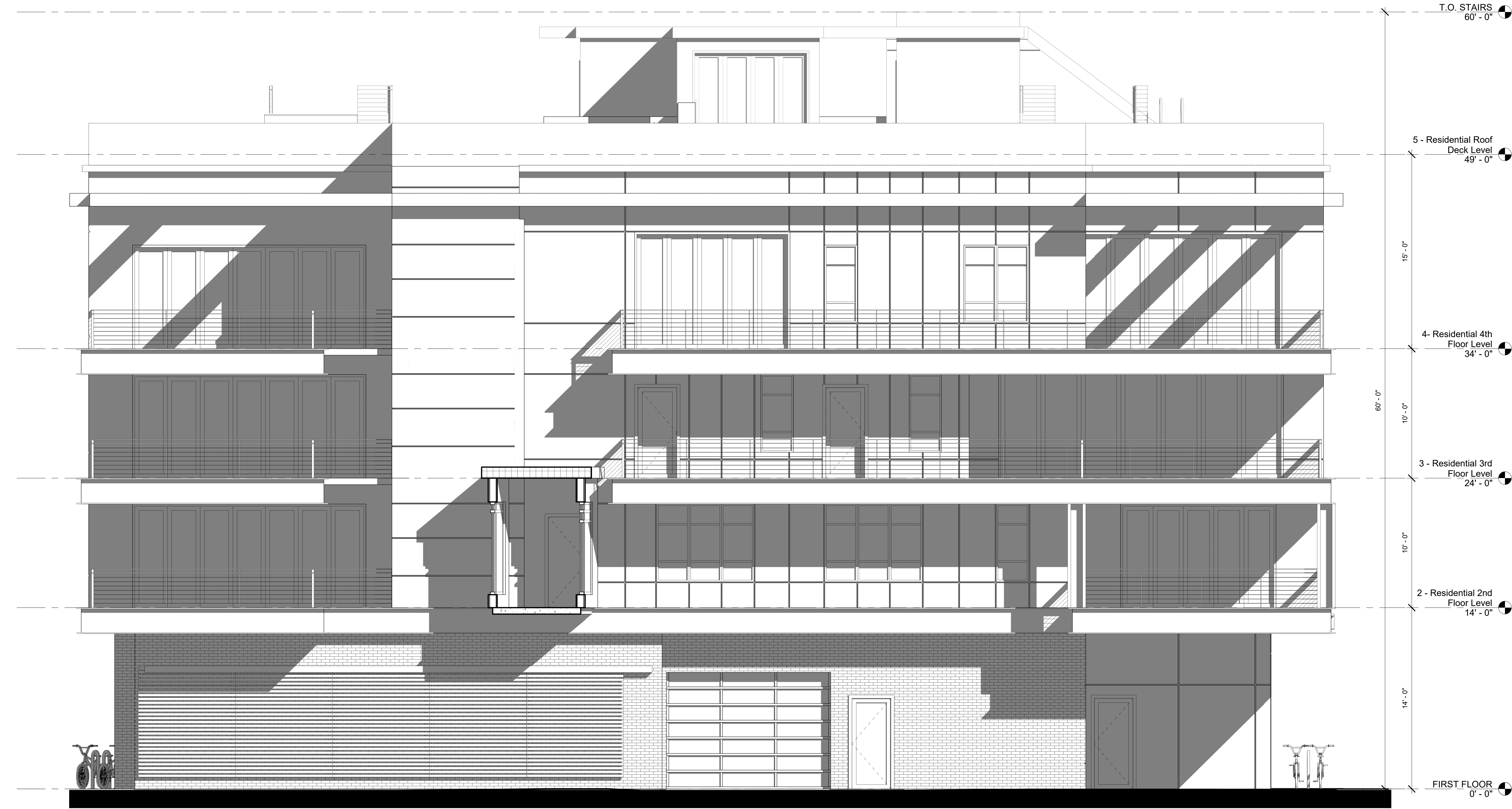
**10 SUNNYSIDE
AVE**

Column Health LLC

CONSULTANTS:

10 SUNNYSIDE AVE

① Elevation - Rear
1/4" = 1'-0"



① Elevation - Left Side
1/4" = 1'-0"

PROJECT NAME

**10 SUNNYSIDE
AVE**

PROJECT ADDRESS

10 Sunnyside Ave
Arlington MA

CLIENT

Column Health LLC

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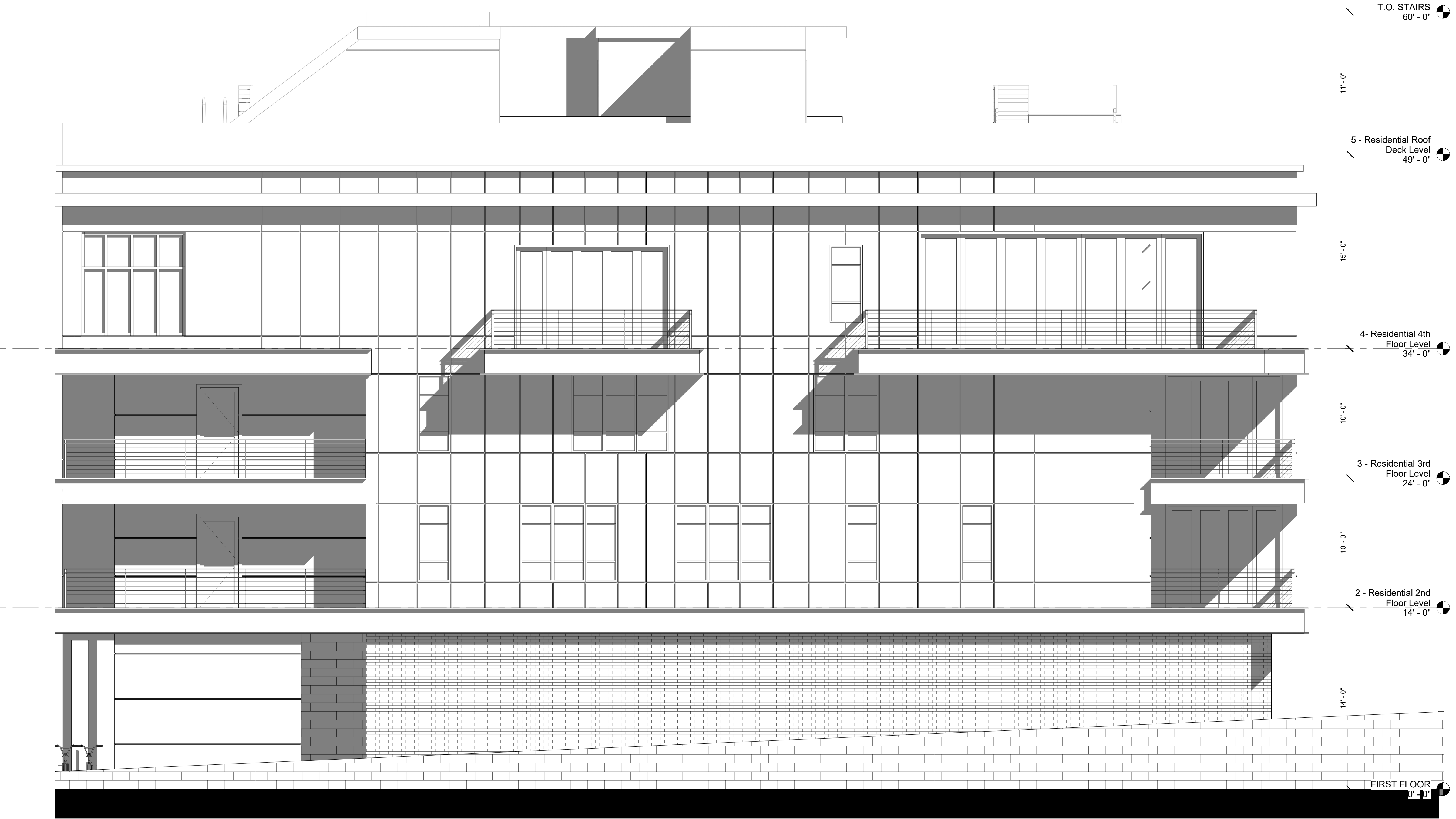
REVISIONS

No.	Description	Date

**Residential - Left
Side Elevation**

A-302

10 SUNNYSIDE AVE



① Elevation - Right Side
1/4" = 1'-0"

PROJECT NAME

10 SUNNYSIDE
AVE

PROJECT ADDRESS

10 Sunnyside Ave
Arlington MA

CLIENT

Column Health LLC

ARCHITECT



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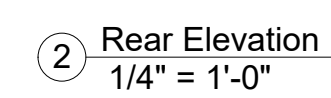
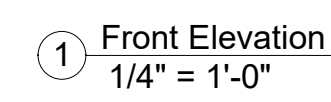
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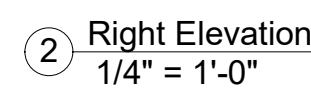
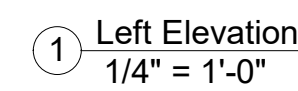
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Residential - Right
Side Elevation

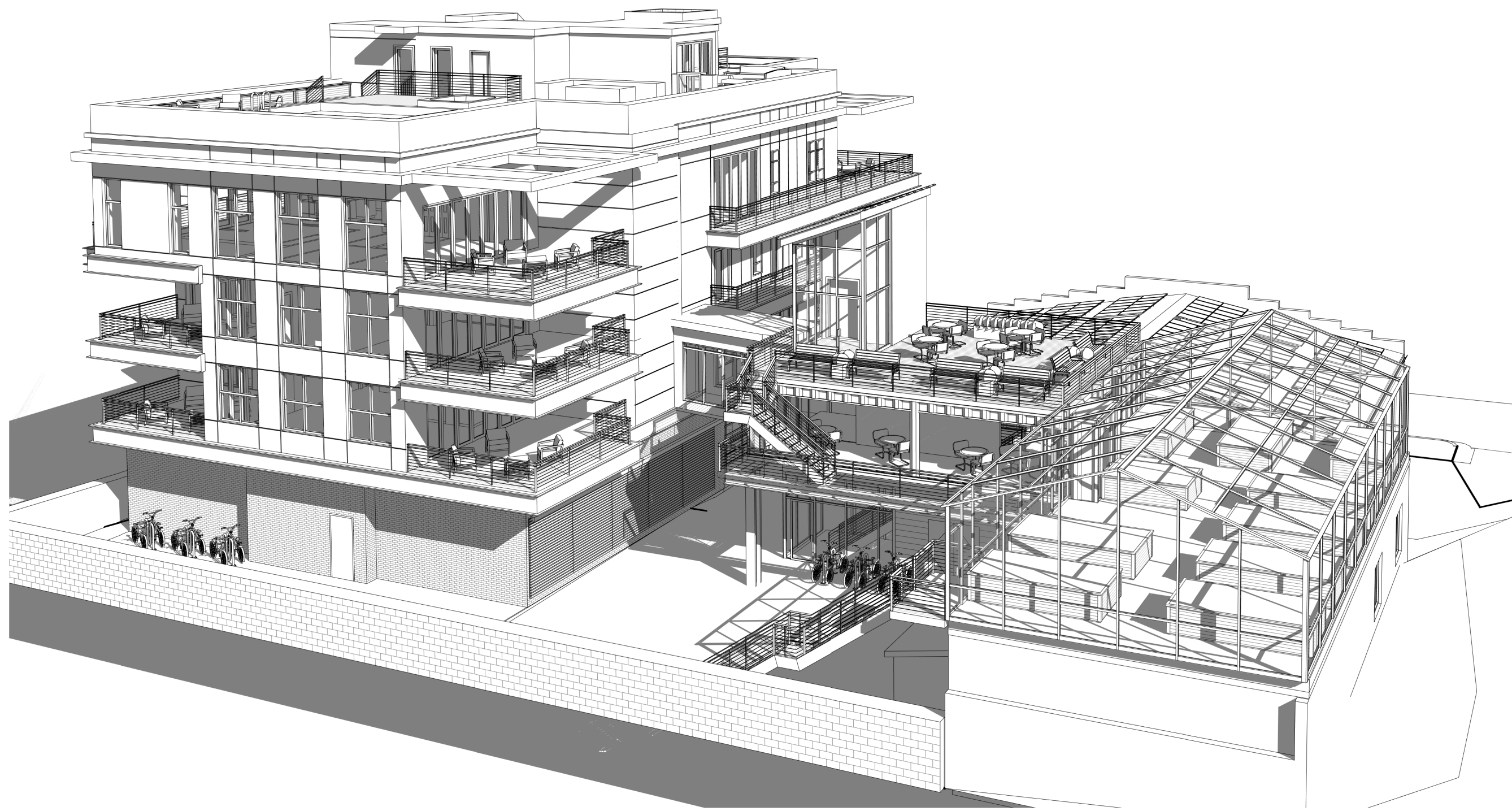
A-303

10 SUNNYSIDE AVE





10 SUNNYSIDE AVE



3 Rear Aerial View #1



1 Perspective #1



4 Street View



2 Perspective #2

PROJECT NAME

10 SUNNYSIDE
AVE

PROJECT ADDRESS

10 Sunnyside Ave
Arlington MA

CLIENT

Column Health LLC

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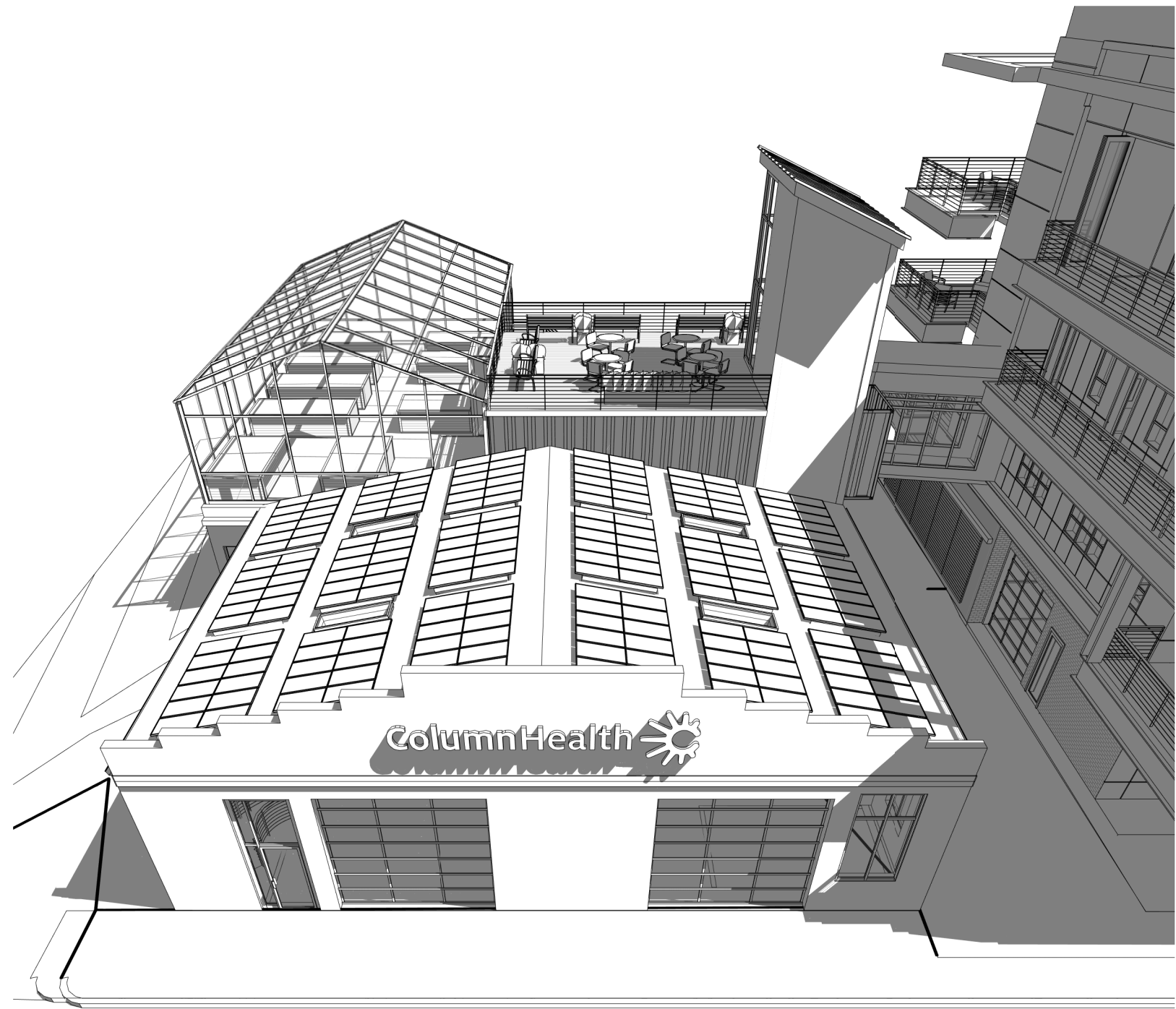
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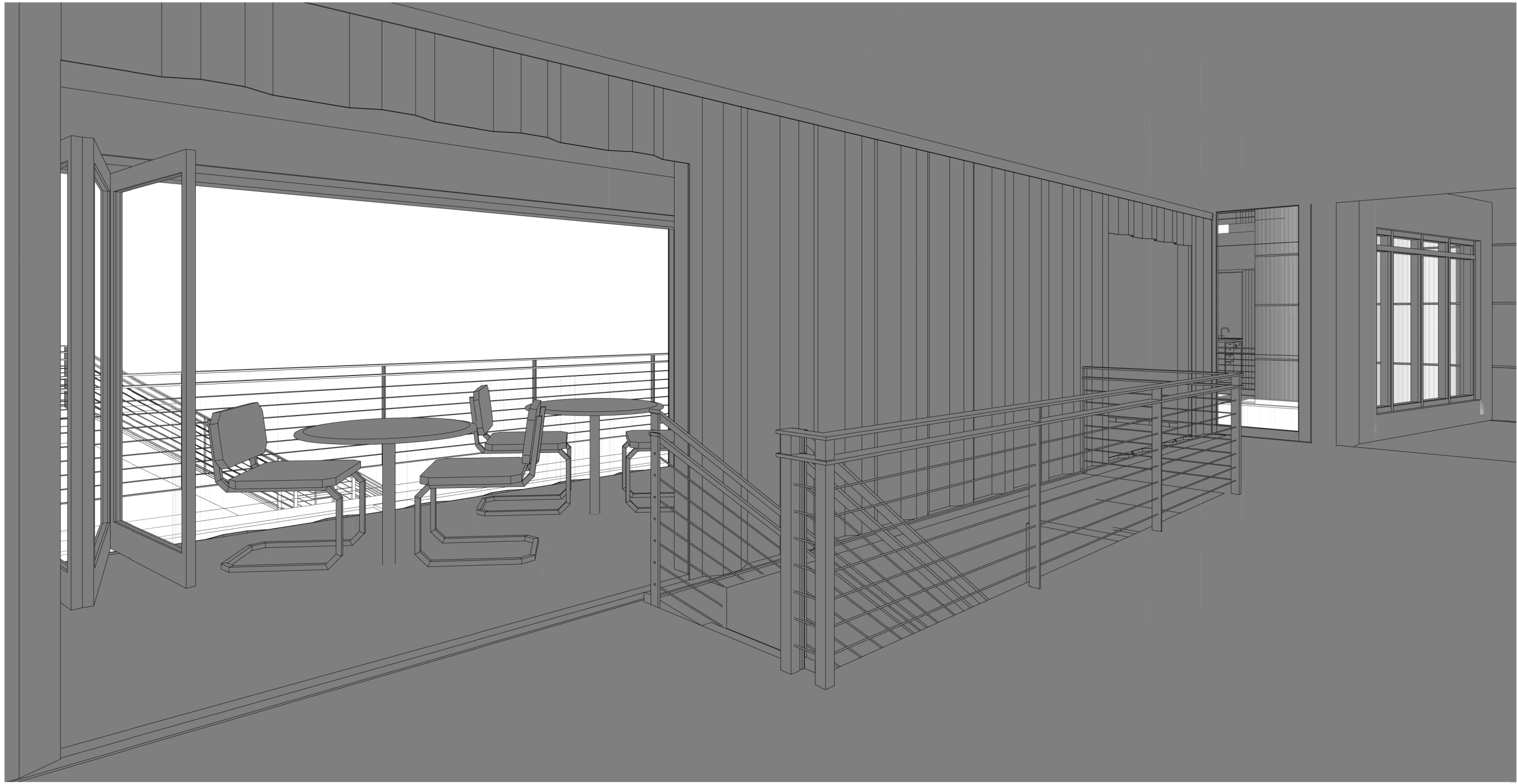
Perspectives #1

A-306

10 SUNNYSIDE AVE



① FRONT AERIAL PERSPECTIVE



② CAFE LOUNGE VIEW



③ GREENHOUSE VIEW



④ REAR VIEW

PROJECT NAME

10 SUNNYSIDE
AVE

PROJECT ADDRESS

10 Sunnyside Ave
Arlington MA

CLIENT

Column Health LLC

ARCHITECT



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Scale

REVISIONS

No.	Description	Date

Perspectives #2

A-307

10 SUNNYSIDE AVE



PROPOSED DEVELOPMENT VIEW LOOKING DOWN SUNNYSIDE AVENUE

PROJECT NAME
**10 SUNNYSIDE
AVE**

PROJECT ADDRESS
10 Sunnyside Ave
Arlington MA

CLIENT
Column Health LLC

ARCHITECT



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SOMERVILLE, MA 02143
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REVISIONS		
No.	Description	Date

Realistic
Rendering

A-308

10 SUNNYSIDE AVE



PROPOSED DEVELOPMENT VIEW LOOKING DOWN SUNNYSIDE AVENUE

PROJECT NAME
**10 SUNNYSIDE
AVE**

PROJECT ADDRESS
10 Sunnyside Ave
Arlington MA

CLIENT

Column Health LLC

ARCHITECT



17 IVALOO STREET SUITE 400
SOMERVILLE, MA 02143
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Scale	

REVISIONS		
No.	Description	Date

Realistic
Rendering

A-309

10 SUNNYSIDE AVE



PROJECT NAME
**10 SUNNYSIDE
AVE**

PROJECT ADDRESS
10 Sunnyside Ave
Arlington MA

CLIENT
Column Health LLC

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KHALSA

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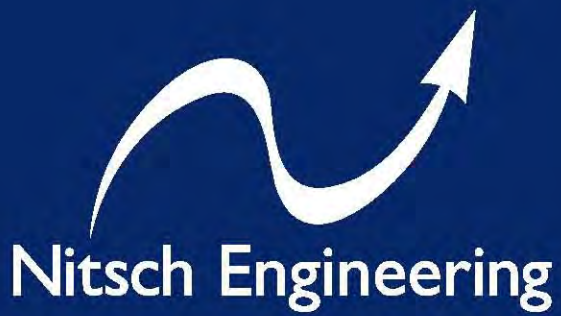
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Checked by	Checker
Scale	

REVISIONS		
No.	Description	Date

Realistic
Perspectives

A-310

10 SUNNYSIDE AVE



Supplemental Traffic Impact Study

10 Sunnyside Avenue
Arlington, MA

December 22, 2020

Prepared for:

Column Health
339 Massachusetts Avenue
Arlington, MA 02474

Submitted by:

Nitsch Engineering
2 Center Plaza, Suite 430
Boston, MA 02108

Nitsch Engineering Project #14424



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1 Introduction

Nitsch Engineering has prepared this Supplemental Traffic Impact Study (TIS) for the proposed residential and office development at 10 Sunnyside Avenue in Arlington, Massachusetts. The Town of Arlington Planning Board indicated that a Traffic Impact Assessment was conducted in June 2020 by Vanasse & Associates, Inc. for a proposed marijuana dispensary at 21 Broadway, which is the parcel adjacent to 10 Sunnyside Avenue. As such, this report references information found in the dispensary report, specifically with regards to existing conditions and safety analysis.

This TIS will review existing roadway conditions, crash data, and traffic volumes, and it will analyze existing and future conditions at intersections in the study area to establish the impact the proposed development would have on traffic operations.

Figure 1 shows the Locus Map and study area.

1.1 Existing Site and Proposed Development

The project site, comprising approximately 16,500 square feet of land area, is currently occupied by an approximate 5,400-square-foot Automotive Center with an unstriped surface parking lot. The site is bounded by a commercial property to the north, the proposed marijuana dispensary to the south, Sunnyside Avenue to the east, and a commercial parking lot to the west.

The proponent proposes to modify and expand the existing site, currently occupied by an approximate 5,400-square-foot Automotive Center, to develop one mixed-use building on site with approximately 8,000 sq/ft of general office and approximately 20,000 sq/ft of residential space that includes five condominiums. The site will also include an indoor parking garage and surface parking to accommodate a total of 21 vehicle parking spaces and 34 bicycle spaces. Access to the site will remain as existing; one curb cut off Sunnyside Avenue.

1.2 Study Area

The study area includes the existing main three roadways, and three intersections within and adjacent to the project site.

Roadways

- Alewife Brook Parkway (Route 16)
- Broadway
- Sunnyside Avenue

Intersections

- Alewife Brook Parkway (Route 16) and Broadway (Signalized)
- Sunnyside Avenue and Broadway (Unsignalized)
- Sunnyside Avenue and Site Driveway (Unsignalized)



Figure 1: Study Area
10 Sunnyside Avenue
Arlington, MA

Data Source: BingMaps
Nitsch Project #: 14424



1.3 Methodology

The traffic analysis herein is summarized in the following sections:

1. An inventory of existing transportation conditions, including roadway capacities, parking, transit, pedestrian and bicycle circulation, and site conditions.
2. An evaluation of future transportation conditions and an assessment of potential traffic impacts associated with the Project and other neighboring projects. Long-term impacts are evaluated for the year 2027, based on a seven-year horizon from the 2020 base year. Expected roadway conditions and deficiencies are identified. This section includes the following scenarios:
 - a. The No-Build Scenario (2027) includes general background growth and additional vehicular traffic associated with specific proposed or planned developments and roadway changes in the vicinity of the Project site; and
 - b. The Build Scenario (2027) includes specific travel demand forecasts for the Project.



2 Existing Conditions

2.1 Roadways

Alewife Brook Parkway (Route 16)

Alewife Brook Parkway is classified as an Urban Principal Arterial under Department of Conservation and Recreation (DCR) jurisdiction. It runs in an approximate north-west direction and spans approximately 2.0 miles from its northern terminus at Mystic Valley Parkway to its southern terminus at Concord Avenue. Within the study area, Alewife Brook Parkway is approximately 38 feet wide and is a two-way, four-lane roadway carrying two lanes of travel in each direction. Parking is prohibited on both sides of the roadway along its entire length. Along the west side of the roadway from Mystic Valley Parkway to Massachusetts Avenue, there is a separated multi-use path. On the west side of the roadway, the Alewife Greenway Bikeway runs parallel to the roadway from Mystic Valley Parkway to Concord Parkway. On the east side of the roadway, there is a separated shared-use path from Massachusetts Avenue to Woodstock Street and again from Broadway to Mystic Valley Parkway. The posted speed limit on Alewife Brook Parkway is 30 miles per hour (mph).

Broadway

Broadway is classified as an Urban Principal Arterial under local jurisdiction. Broadway generally runs in an east-west direction and provides one travel lane in each direction. Within the study area, Broadway generally provides two 11- to 12-foot-wide travel lanes separated by a double-yellow centerline with no marked shoulders and parking provided intermittently along both sides. Sidewalks are provided along both sides of Broadway within the study area, with illumination provided by way of streetlights mounted on wood poles. The posted speed limit along Broadway is 25 mph. Land use within the study area consists of the Saint Paul's Cemetery and residential and commercial properties.


Sunnyside Avenue

Sunnyside Avenue is classified as a Local Access Roadway under local jurisdiction. Sunnyside Avenue generally runs in a north-south direction and provides one travel lane in each direction. Within the study area, Sunnyside Avenue provides an approximate 26-foot wide traveled-way with no marked centerline or shoulders provided and on-street parking permitted along both sides of the roadway. Sidewalks are provided along both sides of Sunnyside Avenue within the study area, with illumination provided by way of streetlights mounted on wood poles. A posted speed limit is not provided along Sunnyside Avenue and, as such, the statutory speed limit is 25 mph. Land use within the study area consists of residential and commercial properties.

2.2 Study Intersections

Alewife Brook Parkway (Route 16) and Broadway

The intersection of Alewife Brook Parkway (Route 16) and Broadway is a four-way, signalized intersection with Alewife Brook Parkway running north-south and Broadway running east-west. Both Alewife Brook Parkway approaches carry two approach lanes: one left-turn/through lane and one through/right-turn lane. Both Broadway approaches are striped as one left-turn/through/right-turn lane in each direction, but both act as two lanes: one left-turn/through lane and one through/right-turn lane. The Alewife Brook Parkway movements have their own phase, followed by an exclusive pedestrian phase, followed by the Broadway eastbound phase, and then the Broadway



westbound phase. There is a shared-use path on the north side of Alewife Brook Parkway at the intersection. Sidewalks are present at all approaches to the intersection and there are crosswalks present across all approaches.

Sunnyside Avenue and Broadway

The intersection of Sunnyside Avenue and Broadway is a three-way, unsignalized intersection with Broadway operating as a free movement through the intersection and Sunnyside Avenue under stop-control. Sunnyside Avenue runs north-south and Broadway runs east-west. Both the Sunnyside Avenue and Broadway approaches carry one approach lane. Note that the Broadway approach lanes are 22 feet wide and although are only striped as single lanes, they operate as two approach lanes to provide queuing storage for vehicles turning onto Sunnyside Avenue. Sidewalks are present at all approaches to the intersection however crosswalks are not present. Wheelchair ramps with detectable warning panels are provided at the northeast and northwest corners of the intersection.

Sunnyside Avenue and the Existing Site Driveway

The intersection of Sunnyside Avenue and the Site Driveway is a three-way, unsignalized intersection with Sunnyside Avenue operating as a free movement through the intersection. Sunnyside Avenue runs north-south and the Site Driveway runs east-west. Both the Sunnyside Avenue and Broadway approaches carry one approach lane. Sidewalks are present along both sides of Sunnyside Avenue.

2.3 Public Transportation

Public transportation services are provided within the study area by the Massachusetts Bay Transit Authority (MBTA) for Bus service. Within the study area, the MBTA operates the Route 87 – Clarendon Hill or Arlington Center - Lechmere Station. Route 87 stops at the Broadway/Sunnyside Avenue intersection; and provides a connection to Arlington Center, Clarendon Hill, Teele Square, Davis Station (MBTA Subway Red Line), Union Square, and Lechmere Station (MBTA Subway Green Line).


MBTA bus service operates Monday through Friday from approximately 5:07 AM to 1:40 AM, on Saturday from 5:15 AM to 1:35 AM, and on Sunday from 6:00 AM to 1:33 AM, with 30-minute-or-less headways on weekdays and Saturdays and 60-minute-or-less headways on Sundays. All MBTA buses are handicapped and wheelchair accessible.

3 Existing Traffic Conditions

3.1 Traffic Count Data

Turning Movement Count (TMC) Data

Precision Data Industries, Inc. (PDI) of Framingham, Massachusetts was retained to collect traffic data on Thursday, December 3, 2020 for all study intersections. TMC data was recorded from 7:00 AM to 9:00 AM to capture the weekday morning peak period volumes and from 4:00 PM to 6:00 PM to capture the weekday evening peak period volumes. The counts include passenger vehicles, heavy vehicles, buses, single-unit trucks, bicycles, and pedestrians. Accurate Counts collected TMC data at the intersection of Alewife Brook Parkway and Broadway on October 18, 2016. According to the MassDOT guidance, the Annual Growth Factors for each year were applied



to year 2019; however, no seasonal adjustment factor for the October data (0.93) or the November data (0.97) was applied as the traffic volumes.

COVID-19 Traffic Data Adjustment

Since March 2020, the COVID-19 pandemic caused the State of Massachusetts to close most businesses, schools, retail stores, and restaurants, significantly altering daily traffic operations. On May 2020, MassDOT published a new Engineering Directive E-20-005, to provide guidance on how to estimate existing and future traffic counts because traffic counts taken after March 13, 2020 may undercount the baseline for which future year are based. As such, we contacted the Town of Arlington to collect traffic studies completed recently in the study area. The Clarendon Hill Traffic Impact and Access Study, conducted in 2017, included 2016 counts taken at the Alewife Brook Parkway/Broadway intersection. As such, the 2016 traffic volumes at this intersection were utilized and adjusted to 2019 volumes following the procedures outlined in the MassDOT Guidance on Traffic Count Data (April 2020).

Historical data for the Sunnyside Avenue/Broadway intersection was not available therefore the counts collected by PDI on December 3, 2020 were used to generate a percent difference at the Alewife Brook Parkway intersection during the weekday morning and weekday evening peak hours. It was found that the 2020 counted volumes comprised only 44% of the 2019 volumes (grown from 2016) during the weekday morning peak hour and 47% of the 2019 volumes during the weekday evening. Therefore, average factors of 2.3 and 2.1 were applied to the 2020 collected volumes at the Sunnyside Avenue/Broadway intersection for the weekday morning and weekday evening peak hours, respectively. **The adjusted traffic volumes will be referred to as the 2020 existing condition in this report.** The 2016 and 2020 raw traffic counts are included in Appendix A.

Figure 2 shows the 2020 existing peak-hour traffic volumes at the study intersections in the form of turning movements.




Figure 2: Estimated 2020 Existing Peak Hour Volumes
 10 Sunnyside Avenue
 Arlington, MA

3.2 Safety Analysis

As the crash safety analysis was conducted for the marijuana dispensary adjacent to the project site, we have summarized the findings from the June 2020 Traffic Impact Assessment (TIA). As defined in the TIA, Motor vehicle crash data was acquired from the Massachusetts Department of Transportation (MassDOT) Safety Management/Traffic Operations Unit for the most recent five-year period available (2013 through 2017) to examine motor vehicle crash trends occurring within the study area. The crash statistics table for the Alewife Brook Parkway/Broadway intersection from the June 2020 TIA are included in Table 1. The Broadway at Sunnyside Avenue intersection is not listed as a HSIP location and has a crash rate below the MassDOT average. Therefore, this intersection was not reported.

Table 1 – Crash Statistics

Intersections	Crash Statistics
Total Crashes By Year	
2013	8
2014	7
2015	6
2016	16
2017	13
Total (5 Years)	50
Intersection Crash Rate	
Calculated ^a	0.83
Average, District 4 ^{a,c}	0.73
Average, Statewide ^{a,c}	0.78
Severity of Crash	
Property Only	32
Injury	17
Fatality	0
Hit and Run	0
Not Reported (other)	1
Manner of Collision	
Angle	31
Rear-End	7
Rear-Rear	3
Head-On	5
Sideswipe	3
Single Vehicle	1
Other	0
^a Crashes per Million Entering Vehicles (MEV) ^b MassDOT's average crash rates for intersections are based on the latest information available as of June 2018 ^c Rain, snow, sleet/hail/freezing rain/freezing drizzle, blowing sand/snow; Wet, icy, or snowy road surface	



The intersection of Alewife Brook Parkway and Broadway experienced the highest frequency of accidents over the five-year review period with a total of 50 accidents reported at the intersection, averaging 10.0 accidents per year. Most accidents involved property damage only (32 out of 50), occurred on dry pavement (42 out of 50), during daylight (26 out of 50), and involved angle type collisions (31 out of 50). The intersection was found to have a motor vehicle crash rate above the MassDOT average for the District in which the Project is located (District 4). No fatalities were reported at any of the study area intersections over the five-year period reviewed. In addition, the Highway Safety Improvement Program (HSIP) database was reviewed. The intersection of Alewife Brook Parkway and Broadway is listed as a HSIP cluster in the most recent (2015-2017) HSIP cluster listing.

3.3 Sight Distance

Stopping Sight Distance (SSD) is the length of the roadway ahead that is visible to the driver and should be long enough to enable a vehicle traveling at or near the design speed to stop before reaching a stationary object in its path. Stopping sight distance is the sum of the distance traversed by the vehicle from the instant the driver sights an object necessitating a stop to the instant the brakes are applied and the distance needed to stop the vehicle from the instant brake application begins.

Intersection Sight Distance (ISD) is the length of the leg of the departure sight triangle along the major road in both directions for a vehicle stopped on the minor road waiting to depart. The critical departure sight triangles for the proposed site driveway are for traffic approaching from either the left or right for left turns from driveway onto Sunnyside Avenue. The SSD and ISD values associated with a given design speed are shown in Table 2.

Table 2 – Sight Distance Criteria

DESIGN SPEED (MPH)	DESIGN STOPPING SIGHT DISTANCE VALUE ¹ (FT)	RECOMMENDED INTERSECTION SIGHT DISTANCE VALUE ² (FT)
15	80	170
20	115	225
25	155	280
30	200	335
35	250	390
40	305	445
45	360	500
50	425	555
55	495	610
60	570	665
65	645	720
70	730	775
75	820	830
80	910	885
Source: A Policy on Geometric Design of Highways and Streets, AASHTO, Washington DC (2011)		
¹ Design value based on a grade of less than 3%, a brake reaction distance predicted on a time of 2.5 seconds and a deceleration rate of 11.2 ft/s ²		
² Recommended value based on Case B1 - a stopped passenger car to turn left onto a two-lane highway with no median and grades 3% or less		

Using the statutory speed limit of 25 MPH for Sunnyside Avenue, we calculated the required sight distance at the Site Driveway. As shown in Table 3, both SSD and ISD values at the Site Driveway are sufficient to meet current traffic engineering standards.

Table 3 – Sight Distance Evaluation

Intersecting Street	Stopping Sight Distance (SSD)			Intersection Sight Distance (ISD)		
	Traveling	Calculated	Measured	Looking	Calculated	Measured
Site Driveway at Sunnyside Avenue	NB	155	180	Right	280	210 ^a
	SB	155	310	Left	280	280
^a Clear line of sight provided to Broadway						



4 Future No-Build Traffic Conditions

Nitsch Engineering used the 2020 existing traffic volumes as the baseline for projecting traffic volumes to future 2027 No-Build conditions. To determine future 2027 conditions, the following steps are included:

- Project existing 2020 traffic volumes seven years in the future to the horizon year (2027) using an annual background traffic growth factor to account for regional growth;
- Add traffic volumes associated with any planned developments that may impact the study area;
- Include any planned roadway improvements that may affect traffic volumes; and
- Analyze the study area location to determine future traffic operations.

4.1 Background Growth

We reviewed the Town of Arlington's 2015 Master Plan to determine an appropriate growth rate to apply to the 2020 existing traffic volumes. As noted in Table 2.1 in Chapter 2 of the Master Plan, the expected growth from 2020 to 2030 is 3.3%, which equates to an annual 0.33% background growth rate. Understanding that development is increasing in the Greater Boston Area, we selected a conservative rate of 2.0% per year to represent regional background growth of traffic in this area. We applied this growth rate over the 7-year design period for the turning movement data.

4.2 Additional Development

Nitsch Engineering researched past traffic reports to obtain information on proposed development near the study area. We identified the following three development projects that can impact traffic within the study area.

21 Broadway, Arlington, MA- Retail Marijuana Dispensary


The project proposes renovating a 3,000-square-foot vacant bank to develop a marijuana dispensary at 21 Broadway. The site's access will be served by one entrance-only driveway along Broadway and one exit-only driveway along Sunnyside Avenue. We obtained the project generated trips and trip assignment for the weekday evening peak hour from the Traffic Impact Assessment conducted by Vanasse & Associates, Inc., and used them in our analysis. Since the dispensary would open its business after the weekday morning peak hour, we have not generated or included weekday morning peak hour trips associated with this project for our analysis.

34 North Street, Somerville, MA- Clarendon Hill Redevelopment

The project proposes to demolish 216 existing apartment units and replace them with 591 new residential units at 34 North Street. We obtained the site-generated traffic and trip assignment for both weekday morning and weekday evening peak hours from the Traffic Impact and Access Study conducted by Design Consultants, Inc., and used them in our analysis.

1154 Broadway, Somerville, MA- Broadway Hotel

The project proposes constructing one building with 75 hotel rooms, a coffee shop, a fitness center, a restaurant, and a rooftop on a vacant lot at 1154 Broadway. We obtained the site-generated trips and trip assignments for both weekday morning and weekday evening peak hours from the Traffic Impact and Access Study conducted by



Design Consultants, Inc. However, the trip assignments do not include our study intersections. Therefore, we used the existing distribution at our study intersections to distribute trips from this project.

Appendix B includes the trip assignment diagrams from the projects mentioned above.

4.3 2027 No-Build Traffic Volumes

We developed the 2027 No-Build volumes by applying annual growth rates for seven years to the 2020 Existing conditions volumes turning movements at the three study intersections and then we added to all three study intersections the trips generated by the additional development projects. Figure 3 presents the peak hour traffic volumes for 2027 No-Build conditions.

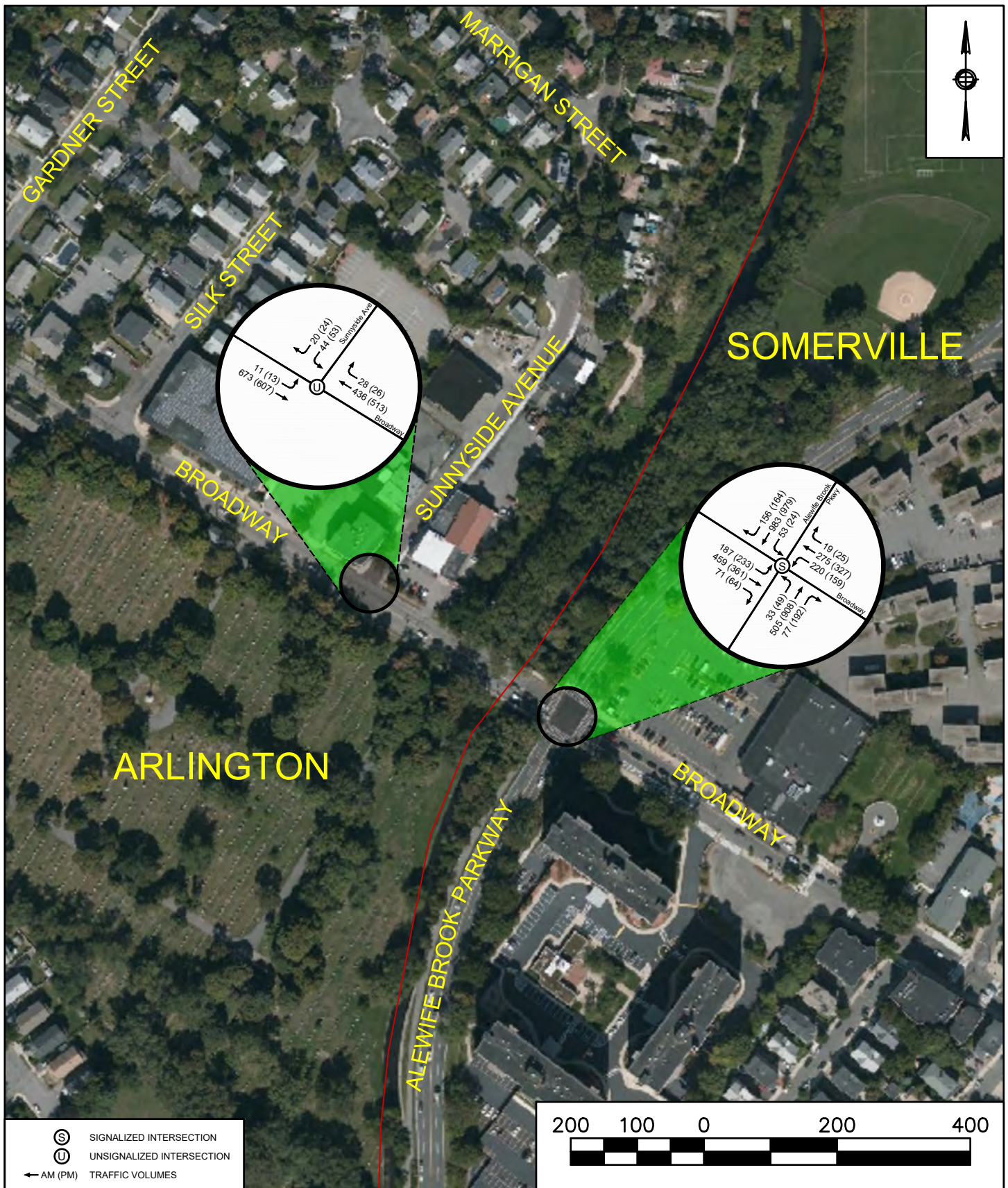


Figure 3: 2027 No-Build Peak Hour Volumes
 10 Sunnyside Avenue
 Arlington, MA

5 Future Build Conditions

5.1 Proposed Site Changes

The proponent proposes to modify and expand the existing site, currently occupied by an approximate 5,400-square-foot Automotive Center, to develop one mixed-use building on site with approximately 8,000 sq/ft of general office and approximately 20,000 sq/ft of residential space that includes five condominiums. The site will also include an indoor parking garage and surface parking to accommodate a total of 21 vehicle parking spaces and 34 bicycle spaces. Access to the site will remain as existing; one curb cut off Sunnyside Avenue.

5.2 2027 Build Traffic Volumes

The 2027 Build traffic volumes comprise the 2027 No-Build volumes and the vehicle trips generated by the proposed development. The individual turning movements were applied to the study intersections.

5.2.1 Proposed Trip Generation

We estimated the trip generation for the proposed land uses to obtain the trips generated by the proposed Project using the Institute of Transportation Engineers (ITE) *Trip Generation, 10th Edition*.¹ For the new condominium complex, we used LUC 220 – “Multifamily Housing (Low-Rise)”, which includes apartments, townhouses, and condominiums located within the same building with at least three (3) other dwelling units. For the offices, we used LUC 710 – “General Office Buildings.” As the existing land use did not generate any trips during the count periods, a trip generation credit was not applied. The total future trips are shown in Table 4.

Table 4 – Peak Hour Trip Generation

Period	Direction	Future Peak Hour Trips		
		Apartment Trips	Office Trips	Total Trips
Weekday morning	Enter	0	8	8
	Exit	2	1	3
	Total	2	9	11
Weekday evening	Enter	2	1	3
	Exit	1	8	9
	Total	3	9	12

Detailed trip generation calculations are provided in Appendix C.

5.2.2 Project Trip Distribution and Assignment

The traffic volume to and from the proposed development site will be distributed and assigned for the weekday morning and weekday evening peak hours based on the existing travel patterns and logical travel routes, which are based on the existing roadway network both within the Town and the surrounding region.

¹ *Trip Generation*, Institute of Transportation Engineers, 10th Edition, 2016, Washington, D.C.



To distribute the site generated traffic volume through the roadway network, the volumes in Table 4 were multiplied by the trip distribution percentages assigned to the additional intersection volumes. The site-generated traffic volumes are shown on Figure 4 for the weekday morning and weekday evening peak hours.

The Build Condition traffic volumes were calculated by combining the No-Build traffic volumes with the site-generated traffic volumes, which are shown on Figure 5.

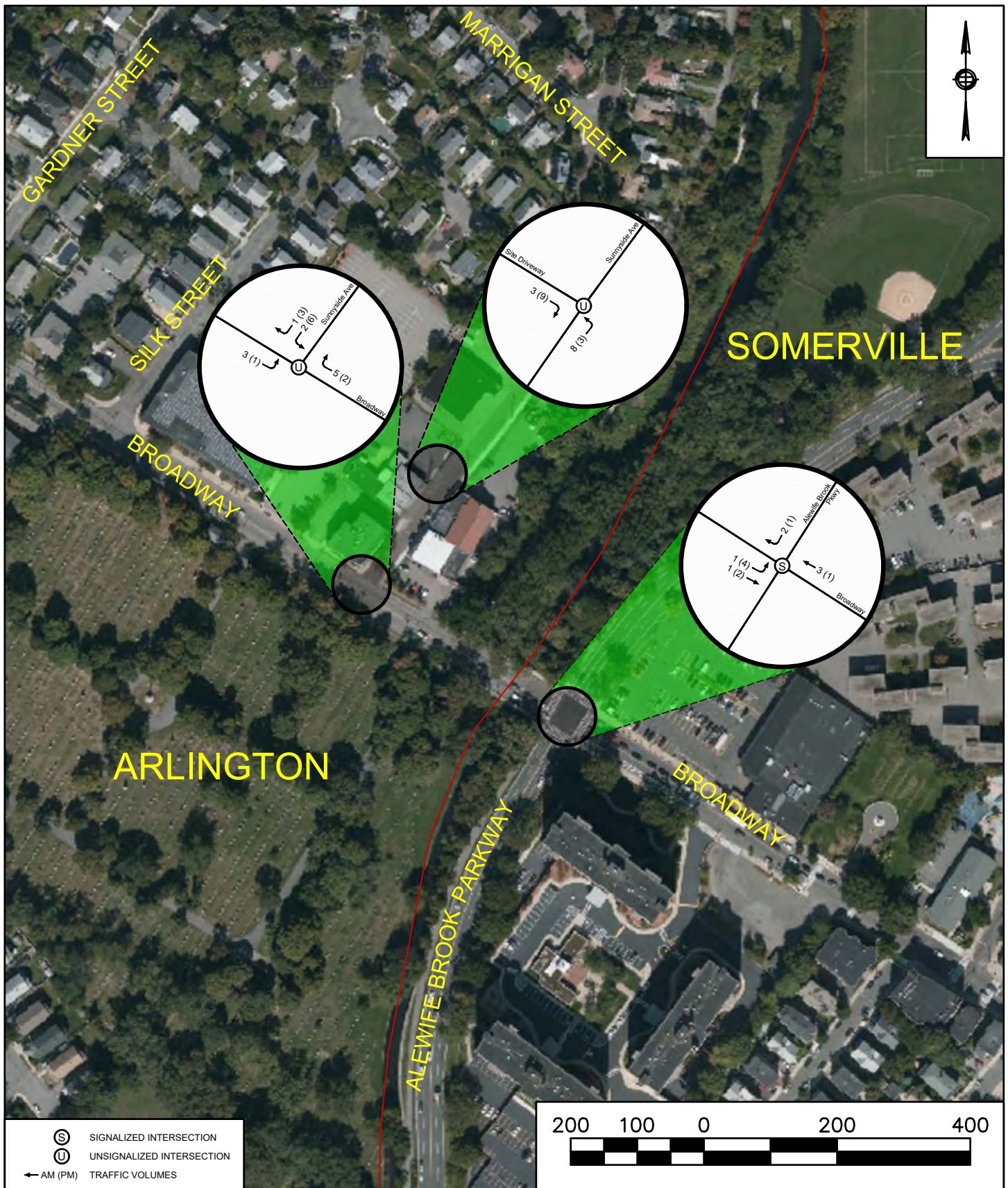


Figure 4: Trip Assignment
 10 Sunnyside Avenue
 Arlington, MA

Data Source: BingMaps
 Nitsch Project #: 14424

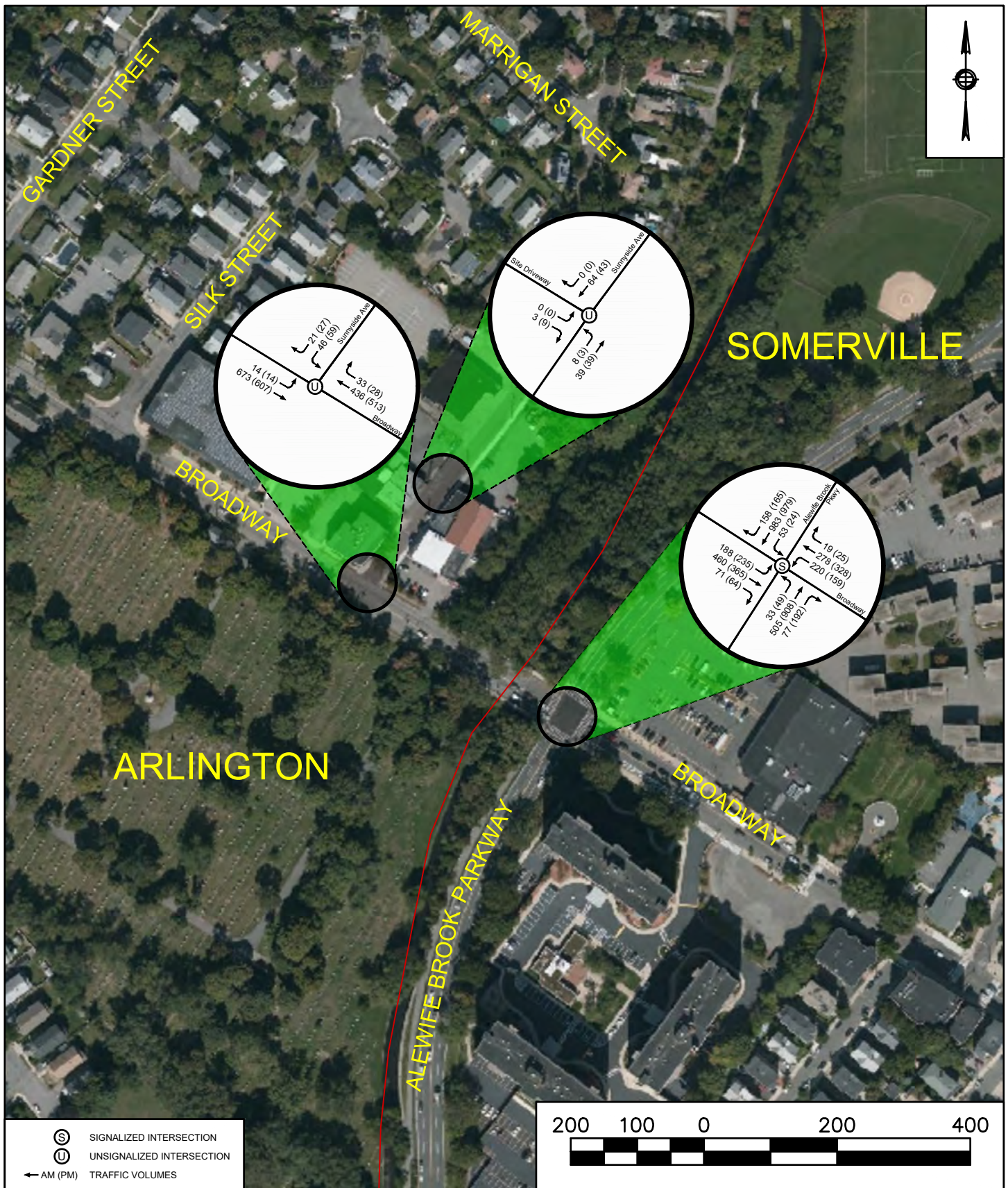


Figure 5: 2027 Build Peak Hour Volumes
 10 Sunnyside Avenue
 Arlington, MA

Data Source: BingMaps
 Nitsch Project #: 14424

6 Traffic Analysis

6.1 Evaluation Criteria

Traffic operations at intersections are evaluated using the performance measures of average vehicular delay, level of service (LOS), volume-to-capacity (v/c) ratio, and average and 95th percentile queue lengths.

LOS is a qualitative measure that describes operating conditions through letter designations, from A to F. It is defined for intersections in terms of average control delay per vehicle. LOS A indicates the most favorable condition, with minimum traffic delay. LOS F represents the worst condition where there is significant traffic delay. LOS D or better is typically considered desirable for peak-hour operation in urban and suburban settings. The delay designations for each LOS level differ slightly between signalized and unsignalized intersections due to driver expectations and behavior. Table 5 summarizes the LOS criteria for intersections as used in this analysis.

Table 5 – Intersection Level of Service Criteria

Level of Service	Average Control Delay (sec/veh)	
	Signalized	Unsignalized
A	0-10	0-10
B	>10-20	>10-15
C	>20-35	>15-25
D	>35-55	>25-35
E	>55-80	>35-50
F	>80	>50

Source: HCM 2000

For signalized intersections, LOS is reported by lane group, by approach, and for the entire intersection. For unsignalized intersections, the analysis assumes that the traffic on the mainline is not affected by traffic on the side street. As such, an unsignalized intersection's LOS is generally reported for left-turns on the mainline and all side street movements, and an overall intersection LOS is not determined.

The v/c ratio is a measure of congestion at an intersection approach. The capacity of a facility is the maximum hourly rate at which persons or vehicles reasonably can be expected to traverse a point or a uniform section of a lane or roadway under prevailing roadway, traffic, and control conditions. A v/c ratio below one indicates that the intersection approach has adequate capacity to serve the arriving traffic demand. A v/c ratio that approaches or exceeds 1.0 indicates traffic congestion or poor operating conditions. In that situation, vehicles arrive faster than they can be served, so queue lengths can theoretically grow indefinitely, which is the unstable condition.

Since arrival volumes fluctuate throughout the peak hour, queue lengths vary. The average (50th percentile) queue length represents the maximum back of queue on a typical cycle for a signalized intersection. Average queue lengths are not reported for unsignalized intersections. The 95th percentile queue, reported for both signalized and unsignalized intersections, occurs with 95th percentile traffic volumes, and its length commonly denotes the farthest extent of the vehicle queue.

6.2 Capacity Analyses

We performed capacity analyses for the study intersections under 2020 Existing conditions, 2027 No-Build conditions, and 2027 Build conditions during the weekday morning and weekday evening peak hours using Trafficware's Synchro 10 software. Synchro uses, in part, the traffic operational analysis methodology of the Transportation Research Board's *Highway Capacity Manual* (HCM).² We generated the results of the capacity analyses using Synchro's Percentile Delay Method for delay, v/c ratio, and queue lengths, supported by HCM 2000 methodology for unsignalized intersection analysis. The Synchro output sheets for the capacity analyses are included in Appendix D.

6.2.1 2020 Existing Conditions Capacity Analysis

The first analysis evaluated traffic operations with 2020 existing traffic volumes under existing geometric conditions and signal timing/phasing. We derived peak hour factors (PHFs) and heavy vehicle percentages from the TMC data. We applied PHFs on an approach-by-approach basis, and we applied heavy vehicle percentages by lane group. Table 6 summarizes the capacity analysis results for the 2020 Existing conditions.

Table 6 – Capacity Analysis Summary: 2020 Existing Conditions

Location	Direction / Movement ^a	Weekday Morning Peak Hour					Weekday Evening Peak Hour				
		v/c Ratio ^b	Delay ^c	LOS	Queue ^d		v/c Ratio ^b	Delay ^c	LOS	Queue ^d	
					50th	95th				50th	95th
Alewife Brook Pkwy (Rt 16) and Broadway [signalized]	Broadway EB – LTR	1.03	95.8	F	~317	#443	0.99	84.9	F	286	#384
	Broadway WB – LTR	0.95	84.2	F	217	#327	0.91	77.4	E	203	#298
	Route 16 NB – LTR	0.71	39.6	D	222	290	1.16	119.5	F	~540	#677
	Route 16 SB – LTR	1.07	87.4	F	~559	#696	1.09	93.9	F	~553	#690
	Overall	1.07	78.9	E	-	-	1.16	97.9	F	-	-
Sunnyside Ave and Broadway [unsignalized]	Broadway EB – L	0.01	8.4	A	-	0	0.02	9.1	A	-	0
	Sunnyside Ave SB – LR	0.52	34.8	D	-	70	0.21	23.2	C	-	20
^a Direction: NB = Northbound, SB = Southbound, EB = Eastbound, WB = Westbound; Movement: L = Left-turn, T = Through movement, R = Right-turn ^b Overall v/c ratio is the maximum v/c ratio among lane groups ^c Average vehicle delay (seconds) ^d 50th and 95th percentile queue lengths (feet) based upon average vehicle length of 25 feet ~ Volume exceeds capacity, queue is theoretically infinite; queue shown is maximum after two cycles # 95th percentile volume exceeds capacity, queue may be longer; queue shown is maximum after two cycles											

Under 2020 Existing conditions, the intersection of Alewife Brook Parkway and Broadway will operate at overall LOS E and F during the weekday morning and weekday evening peak hours, respectively. Extensive queuing and high v/c ratios are calculated at most approaches to the Alewife Brook Parkway/Broadway intersection with some approaches exceed 1.0 v/c ratio. At intersection of Sunnyside Avenue and Broadway, the eastbound left-turn will operate at LOS A during both peak hours; however, the southbound approach will operate at LOS D and C during the weekday morning and weekday evening peak hours, respectively. **Note, the westbound approach at the intersection of Sunnyside Avenue and Broadway is not represented on this table as the through and right turns are non-conflicting movements which will operate without delay.**

² *Highway Capacity Manual 2000 (HCM 2000)*, Transportation Research Board, Washington, D.C., 2000.

6.2.2 2027 No-Build Conditions Capacity Analysis

Under future No-Build conditions, we kept lane geometry, traffic control, and signal timing parameters the same as existing. We applied the future volumes determined in Section 4.3 (Figure 3) with the same heavy vehicle percentages and PHFs as existing. Table 7 summarizes the analysis results for 2027 No-Build conditions.

Table 7 – Capacity Analysis Summary: 2027 No-Build Conditions

Location	Direction / Movement ^a	Weekday Morning Peak Hour					Weekday Evening Peak Hour				
		v/c Ratio ^b	Delay ^c	LOS	Queue ^d		v/c Ratio ^b	Delay ^c	LOS	Queue ^d	
					50th	95th				50th	95th
Alewife Brook Pkwy (Rt 16) and Broadway [signalized]	Broadway EB – LTR	1.20	151.2	F	~421	#552	1.19	147.0	F	~414	#507
	Broadway WB – LTR	1.10	121.7	F	~285	#406	1.03	102.1	F	~256	#375
	Route 16 NB – LTR	0.93	58.5	E	291	#412	1.70	348.5	F	~791	#932
	Route 16 SB – LTR	1.34	194.3	F	~760	#899	1.45	242.3	F	~777	#917
	Overall	1.34	143.8	F	-	-	1.70	236.9	F	-	-
Sunnyside Ave and Broadway [unsignalized]	Broadway EB – L	0.01	8.6	A	-	0	0.02	9.5	A	-	2.5
	Sunnyside Ave SB – LR	0.75	64.4	F	-	125	0.60	50.4	F	-	82.5
^a Direction: NB = Northbound, SB = Southbound, EB = Eastbound, WB = Westbound; Movement: L = Left-turn, T = Through movement, R = Right-turn ^b Overall v/c ratio is the maximum v/c ratio among lane groups ^c Average vehicle delay (seconds) ^d 50th and 95th percentile queue lengths (feet) based upon average vehicle length of 25 feet ~ Volume exceeds capacity, queue is theoretically infinite; queue shown is maximum after two cycles # 95th percentile volume exceeds capacity, queue may be longer; queue shown is maximum after two cycles											

Under 2027 No-Build conditions, all movements will experience an increase in v/c ratio, delay, and queue length except for the eastbound approach to the Sunnyside Avenue/Broadway intersection, which will continue to operate at LOS A during both peak hours. At the intersection of Alewife Brook Parkway and Broadway, the overall intersection will degrade from LOS E to F during the weekday morning peak hour, the northbound approach will degrade from LOS D to E during the weekday morning peak hour, and the westbound approach will degrade from LOS E to F during the weekday evening peak hour.

6.2.3 2027 Build Conditions Capacity Analysis

We performed capacity analyses for the proposed build conditions for the future development. Under these future Build conditions, we kept lane geometry, traffic control, and signal timing parameters the same as existing for all four study intersections. We applied the future volumes determined in Section 5.2 (Figure 5) with the same heavy vehicle percentages and PHFs as existing. Table 8 summarizes the analysis results for the 2027 Build conditions.

Table 8 – Capacity Analysis Summary: 2027 Build Conditions

Location	Direction / Movement ^a	Weekday Morning Peak Hour					Weekday Evening Peak Hour				
		v/c Ratio ^b	Delay ^c	LOS	Queue ^d		v/c Ratio ^b	Delay ^c	LOS	Queue ^d	
					50th	95th				50th	95th
Alewife Brook Pkwy (Rt 16) and Broadway [signalized]	Broadway EB – LTR	1.21	152.4	F	~422	#553	1.20	150.6	F	~420	#513
	Broadway WB – LTR	1.11	123.6	F	~288	#408	1.03	102.6	F	~257	#377
	Route 16 NB – LTR	0.93	58.7	E	291	#412	1.70	348.5	F	~791	#932
	Route 16 SB – LTR	1.34	194.6	F	~761	#901	1.45	242.8	F	~778	#918
	Overall	1.34	144.5	F	-	-	1.70	237.6	F	-	-
Sunnyside Ave and Broadway [unsignalized]	Broadway EB – L	0.02	8.7	A	-	0	0.02	9.6	A	-	2.5
	Sunnyside Ave SB – LR	0.80	72.3	F	-	137.5	0.67	58.5	F	-	100
Sunnyside Ave and Site Dwy [unsignalized]	Site Dwy EB – LR	0.00	8.6	A	-	0.00	0.01	8.6	A	-	0
	Sunnyside Ave NB – L	0.00	7.4	A	-	0.00	0	7.3	A	-	0
^a Direction: NB = Northbound, SB = Southbound, EB = Eastbound, WB = Westbound; Movement: L = Left-turn, T = Through movement, R = Right-turn ^b Overall v/c ratio is the maximum v/c ratio among lane groups ^c Average vehicle delay (seconds) ^d 50th and 95th percentile queue lengths (feet) based upon average vehicle length of 25 feet ~ Volume exceeds capacity, queue is theoretically infinite; queue shown is maximum after two cycles # 95th percentile volume exceeds capacity, queue may be longer; queue shown is maximum after two cycles											

Under 2027 Build conditions, all movements will continue to operate at No-Build conditions. All movements at the intersection of Sunnyside Avenue and the Site Driveway will operate at LOS A. **Similar to the Sunnyside Avenue/Broadway intersection, the southbound approach at the intersection of Sunnyside Avenue and the Site Driveway is not represented on this table as the through and right turns are non-conflicting movements which will operate without delay.**



7 Conclusions and Recommendations

Nitsch Engineering has prepared this Traffic Impact Study (TIS) for the proposed two-building development at 10 Sunnyside Avenue in Arlington, Massachusetts.

We studied three intersections, one signalized and two unsignalized, to establish the impact the development would have on intersection traffic operations.

The crash data over the last three years available from MassDOT indicate that intersection of Alewife Brook Parkway and Broadway was found to have a motor vehicle crash rate above the MassDOT average for the District in which the Project is located (District 4). No fatalities were reported at any of the study area intersections over the five-year period reviewed. In addition, the Highway Safety Improvement Program (HSIP) database was reviewed. The intersection of Alewife Brook Parkway and Broadway is listed as a HSIP cluster in the most recent (2015-2017) HSIP cluster listing. The Broadway at Sunnyside Avenue intersection is not listed as a HSIP location and has a crash rate below the MassDOT average.

We collected turning movement counts at the three study intersections. We adjusted the counts upward to account for the COVID-19 pandemic's effect on traffic patterns to become our baseline Existing conditions traffic volumes. For future conditions, we projected the Existing conditions traffic volumes over a seven-year period to the horizon year 2027 using an annual growth rate of 2.0% based on expected regional growth to become our future No-Build conditions volumes. We estimated the quantity of vehicle trips the proposed development would generate based on Institute of Transportation Engineers (ITE) *Trip Generation, 10th Edition* criteria.

We performed a vehicle capacity analysis to compare the weekday morning and weekday evening peak hours of the 2020 Existing conditions, 2027 No-Build conditions, and 2027 Build conditions for each of the three study intersections. Under all conditions, the intersection of Alewife Brook Parkway and Broadway will operate poorly with most of the movements operating at LOS F. However, all movements for both intersections in Build condition will continue to operate at No-Build conditions with only minor increases in delay and queuing. The intersection of Sunnyside Avenue and the Site Driveway will operate at LOS A for all movements.

As the project is not anticipated to have a significant impact to traffic operations at the study intersections, no mitigation is recommended at this time.



APPENDIX CONTENTS

<u>Appendix</u>	<u>Description</u>
A	Traffic Count Data
B	Additional Developments' Trip Generation
C	Detailed Trip Generation
D	Capacity Analysis



Appendix A: Traffic Count Data



Location Map: 207732 Arlington, MA

Precision Data Industries, LLC 46 Morton Street, Framingham, MA 01702 ph: 508-875-0100 email: datarequests@pdillc.com



Client: Nitsch Engineering	Engineer: B. Zimolka	Site Code: TBA	Date: Thursday 12/3/2020	PDI Job # 207732	City, State: Arlington, MA
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PDI File #: **207732 A**
 Location: **N: Alewife Brook Parkway S: Alewife Brook Parkway**
 Location: **E: Broadway W: Broadway**
 City, State: **Somerville, MA**
 Client: **Nitsh/ B. Zimolka**
 Site Code: **TBA**
 Count Date: **Thursday, December 3, 2020**
 Start Time: **7:00 AM**
 End Time: **9:00 AM**
 Class:



Cars and Heavy Vehicles (Combined)

	Alewife Brook Parkway					Broadway					Alewife Brook Parkway					Broadway					Total
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	
7:00 AM	10	179	0	0	189	3	26	19	0	48	14	84	1	0	99	7	26	15	0	48	384
7:15 AM	2	199	1	0	202	5	33	21	0	59	17	85	4	0	106	10	37	23	0	70	437
7:30 AM	10	177	0	0	187	1	30	35	0	66	15	94	3	0	112	9	36	21	0	66	431
7:45 AM	11	242	4	0	257	2	31	26	0	59	21	106	5	0	132	18	26	15	0	59	507
Total	33	797	5	0	835	11	120	101	0	232	67	369	13	0	449	44	125	74	0	243	1759
8:00 AM	14	186	10	0	210	8	17	26	0	51	22	101	5	0	128	7	37	16	0	60	449
8:15 AM	8	169	3	0	180	3	29	22	0	54	22	115	5	0	142	15	29	9	0	53	429
8:30 AM	5	174	2	0	181	3	24	25	0	52	19	110	4	0	133	10	27	19	0	56	422
8:45 AM	16	156	4	0	176	4	29	33	0	66	23	104	2	0	129	11	35	18	0	64	435
Total	43	685	19	0	747	18	99	106	0	223	86	430	16	0	532	43	128	62	0	233	1735
Grand Total	76	1482	24	0	1582	29	219	207	0	455	153	799	29	0	981	87	253	136	0	476	3494
Approach %	4.8	93.7	1.5	0.0		6.4	48.1	45.5	0.0		15.6	81.4	3.0	0.0		18.3	53.2	28.6	0.0		
Total %	2.2	42.4	0.7	0.0	45.3	0.8	6.3	5.9	0.0	13.0	4.4	22.9	0.8	0.0	28.1	2.5	7.2	3.9	0.0	13.6	
Exiting Leg Total	964					430					1776					324					3494
Cars	73	1466	24	0	1563	27	197	202	0	426	138	779	29	0	946	86	231	135	0	452	3387
% Cars	96.1	98.9	100.0	0.0	98.8	93.1	90.0	97.6	0.0	93.6	90.2	97.5	100.0	0.0	96.4	98.9	91.3	99.3	0.0	95.0	96.9
Exiting Leg Total	941					393					1754					299					3387
Heavy Vehicles	3	16	0	0	19	2	22	5	0	29	15	20	0	0	35	1	22	1	0	24	107
% Heavy Vehicles	3.9	1.1	0.0	0.0	1.2	6.9	10.0	2.4	0.0	6.4	9.8	2.5	0.0	0.0	3.6	1.1	8.7	0.7	0.0	5.0	3.1
Exiting Leg Total	23					37					22					25					107

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:15 AM	Alewife Brook Parkway					Broadway					Alewife Brook Parkway					Broadway					Total
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	
7:15 AM	2	199	1	0	202	5	33	21	0	59	17	85	4	0	106	10	37	23	0	70	437
7:30 AM	10	177	0	0	187	1	30	35	0	66	15	94	3	0	112	9	36	21	0	66	431
7:45 AM	11	242	4	0	257	2	31	26	0	59	21	106	5	0	132	18	26	15	0	59	507
8:00 AM	14	186	10	0	210	8	17	26	0	51	22	101	5	0	128	7	37	16	0	60	449
Total Volume	37	804	15	0	856	16	111	108	0	235	75	386	17	0	478	44	136	75	0	255	1824
% Approach Total	4.3	93.9	1.8	0.0		6.8	47.2	46.0	0.0		15.7	80.8	3.6	0.0		17.3	53.3	29.4	0.0		
PHF	0.661	0.831	0.375	0.000	0.833	0.500	0.841	0.771	0.000	0.890	0.852	0.910	0.850	0.000	0.905	0.611	0.919	0.815	0.000	0.911	0.899
Cars	36	795	15	0	846	14	102	105	0	221	69	375	17	0	461	43	127	74	0	244	1772
Cars %	97.3	98.9	100.0	0.0	98.8	87.5	91.9	97.2	0.0	94.0	92.0	97.2	100.0	0.0	96.4	97.7	93.4	98.7	0.0	95.7	97.1
Heavy Vehicles	1	9	0	0	10	2	9	3	0	14	6	11	0	0	17	1	9	1	0	11	52
Heavy Vehicles %	2.7	1.1	0.0	0.0	1.2	12.5	8.1	2.8	0.0	6.0	8.0	2.8	0.0	0.0	3.6	2.3	6.6	1.3	0.0	4.3	2.9
Cars Enter Leg	36	795	15	0	846	14	102	105	0	221	69	375	17	0	461	43	127	74	0	244	1772
Heavy Enter Leg	1	9	0	0	10	2	9	3	0	14	6	11	0	0	17	1	9	1	0	11	52
Total Entering Leg	37	804	15	0	856	16	111	108	0	235	75	386	17	0	478	44	136	75	0	255	1824
Cars Exiting Leg					463					211					943					155	1772
Heavy Exiting Leg					14					15					13					10	52
Total Exiting Leg					477					226					956					165	1824

PDI File #: **207732 A**
 Location: **N: Alewife Brook Parkway S: Alewife Brook Parkway**
 Location: **E: Broadway W: Broadway**
 City, State: **Somerville, MA**
 Client: **Nitsh/ B. Zimolka**
 Site Code: **TBA**
 Count Date: **Thursday, December 3, 2020**
 Start Time: **7:00 AM**
 End Time: **9:00 AM**
 Class:



Cars

	Alewife Brook Parkway					Broadway					Alewife Brook Parkway					Broadway					Total
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	
7:00 AM	9	176	0	0	185	3	23	19	0	45	11	80	1	0	92	7	24	15	0	46	368
7:15 AM	2	198	1	0	201	4	30	21	0	55	15	84	4	0	103	9	32	23	0	64	423
7:30 AM	10	175	0	0	185	1	28	33	0	62	12	91	3	0	106	9	34	21	0	64	417
7:45 AM	10	239	4	0	253	2	28	26	0	56	21	101	5	0	127	18	25	14	0	57	493
Total	31	788	5	0	824	10	109	99	0	218	59	356	13	0	428	43	115	73	0	231	1701
8:00 AM	14	183	10	0	207	7	16	25	0	48	21	99	5	0	125	7	36	16	0	59	439
8:15 AM	7	168	3	0	178	3	25	22	0	50	18	115	5	0	138	15	26	9	0	50	416
8:30 AM	5	174	2	0	181	3	20	23	0	46	18	108	4	0	130	10	21	19	0	50	407
8:45 AM	16	153	4	0	173	4	27	33	0	64	22	101	2	0	125	11	33	18	0	62	424
Total	42	678	19	0	739	17	88	103	0	208	79	423	16	0	518	43	116	62	0	221	1686
Grand Total	73	1466	24	0	1563	27	197	202	0	426	138	779	29	0	946	86	231	135	0	452	3387
Approach %	4.7	93.8	1.5	0.0		6.3	46.2	47.4	0.0		14.6	82.3	3.1	0.0		19.0	51.1	29.9	0.0		
Total %	2.2	43.3	0.7	0.0	46.1	0.8	5.8	6.0	0.0	12.6	4.1	23.0	0.9	0.0	27.9	2.5	6.8	4.0	0.0	13.3	
Exiting Leg Total	941					393					1754					299					3387

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:15 AM	Alewife Brook Parkway					Broadway					Alewife Brook Parkway					Broadway					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	
7:15 AM	2	198	1	0	201	4	30	21	0	55	15	84	4	0	103	9	32	23	0	64	423
7:30 AM	10	175	0	0	185	1	28	33	0	62	12	91	3	0	106	9	34	21	0	64	417
7:45 AM	10	239	4	0	253	2	28	26	0	56	21	101	5	0	127	18	25	14	0	57	493
8:00 AM	14	183	10	0	207	7	16	25	0	48	21	99	5	0	125	7	36	16	0	59	439
Total Volume	36	795	15	0	846	14	102	105	0	221	69	375	17	0	461	43	127	74	0	244	1772
% Approach Total	4.3	94.0	1.8	0.0		6.3	46.2	47.5	0.0		15.0	81.3	3.7	0.0		17.6	52.0	30.3	0.0		
PHF	0.643	0.832	0.375	0.000	0.836	0.500	0.850	0.795	0.000	0.891	0.821	0.928	0.850	0.000	0.907	0.597	0.882	0.804	0.000	0.953	0.899
Entering Leg	36	795	15	0	846	14	102	105	0	221	69	375	17	0	461	43	127	74	0	244	1772
Exiting Leg	463					211					943					155					1772
Total	1309					432					1404					399					3544

PDI File #: **207732 A**
 Location: **N: Alewife Brook Parkway S: Alewife Brook Parkway**
 Location: **E: Broadway W: Broadway**
 City, State: **Somerville, MA**
 Client: **Nitsh/ B. Zimolka**
 Site Code: **TBA**
 Count Date: **Thursday, December 3, 2020**
 Start Time: **7:00 AM**
 End Time: **9:00 AM**
 Class: **Heavy Vehicles-Combined (Buses, Single-Unit Trucks, Articulated Trucks)**



	Alewife Brook Parkway					Broadway					Alewife Brook Parkway					Broadway					Total
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	
7:00 AM	1	3	0	0	4	0	3	0	0	3	3	4	0	0	7	0	2	0	0	2	16
7:15 AM	0	1	0	0	1	1	3	0	0	4	2	1	0	0	3	1	5	0	0	6	14
7:30 AM	0	2	0	0	2	0	2	2	0	4	3	3	0	0	6	0	2	0	0	2	14
7:45 AM	1	3	0	0	4	0	3	0	0	3	0	5	0	0	5	0	1	1	0	2	14
Total	2	9	0	0	11	1	11	2	0	14	8	13	0	0	21	1	10	1	0	12	58
8:00 AM	0	3	0	0	3	1	1	1	0	3	1	2	0	0	3	0	1	0	0	1	10
8:15 AM	1	1	0	0	2	0	4	0	0	4	4	0	0	0	4	0	3	0	0	3	13
8:30 AM	0	0	0	0	0	0	4	2	0	6	1	2	0	0	3	0	6	0	0	6	15
8:45 AM	0	3	0	0	3	0	2	0	0	2	1	3	0	0	4	0	2	0	0	2	11
Total	1	7	0	0	8	1	11	3	0	15	7	7	0	0	14	0	12	0	0	12	49
Grand Total	3	16	0	0	19	2	22	5	0	29	15	20	0	0	35	1	22	1	0	24	107
Approach %	15.8	84.2	0.0	0.0		6.9	75.9	17.2	0.0		42.9	57.1	0.0	0.0		4.2	91.7	4.2	0.0		
Total %	2.8	15.0	0.0	0.0	17.8	1.9	20.6	4.7	0.0	27.1	14.0	18.7	0.0	0.0	32.7	0.9	20.6	0.9	0.0	22.4	
Exiting Leg Total	23					37					22					25					107
Buses	1	2	0	0	3	0	10	3	0	13	1	2	0	0	3	0	12	0	0	12	31
% Buses	33.3	12.5	0.0	0.0	15.8	0.0	45.5	60.0	0.0	44.8	6.7	10.0	0.0	0.0	8.6	0.0	54.5	0.0	0.0	50.0	29.0
Exiting Leg Total	2					13					5					11					31
Single-Unit Trucks	2	13	0	0	15	2	11	2	0	15	13	17	0	0	30	1	6	1	0	8	68
% Single-Unit	66.7	81.3	0.0	0.0	78.9	100.0	50.0	40.0	0.0	51.7	86.7	85.0	0.0	0.0	85.7	100.0	27.3	100.0	0.0	33.3	63.6
Exiting Leg Total	20					19					16					13					68
Articulated Trucks	0	1	0	0	1	0	1	0	0	1	1	1	0	0	2	0	4	0	0	4	8
% Articulated	0.0	6.3	0.0	0.0	5.3	0.0	4.5	0.0	0.0	3.4	6.7	5.0	0.0	0.0	5.7	0.0	18.2	0.0	0.0	16.7	7.5
Exiting Leg Total	1					5					1					1					8

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:00 AM	Alewife Brook Parkway					Broadway					Alewife Brook Parkway					Broadway					Total
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	
7:00 AM	1	3	0	0	4	0	3	0	0	3	3	4	0	0	7	0	2	0	0	2	16
7:15 AM	0	1	0	0	1	1	3	0	0	4	2	1	0	0	3	1	5	0	0	6	14
7:30 AM	0	2	0	0	2	0	2	2	0	4	3	3	0	0	6	0	2	0	0	2	14
7:45 AM	1	3	0	0	4	0	3	0	0	3	0	5	0	0	5	0	1	1	0	2	14
Total Volume	2	9	0	0	11	1	11	2	0	14	8	13	0	0	21	1	10	1	0	12	58
% Approach Total	18.2	81.8	0.0	0.0		7.1	78.6	14.3	0.0		38.1	61.9	0.0	0.0		8.3	83.3	8.3	0.0		
PHF	0.500	0.750	0.000	0.000	0.688	0.250	0.917	0.250	0.000	0.875	0.667	0.650	0.000	0.000	0.750	0.250	0.500	0.250	0.000	0.500	0.906
Buses	1	1	0	0	2	0	6	2	0	8	0	1	0	0	1	0	4	0	0	4	15
Buses %	50.0	11.1	0.0	0.0	18.2	0.0	54.5	100.0	0.0	57.1	0.0	7.7	0.0	0.0	4.8	0.0	40.0	0.0	0.0	33.3	25.9
Single-Unit Trucks	1	8	0	0	9	1	5	0	0	6	7	11	0	0	18	1	3	1	0	5	38
Single-Unit %	50.0	88.9	0.0	0.0	81.8	100.0	45.5	0.0	0.0	42.9	87.5	84.6	0.0	0.0	85.7	100.0	30.0	100.0	0.0	41.7	65.5
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	1	1	0	0	2	0	3	0	0	3	5
Articulated %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	12.5	7.7	0.0	0.0	9.5	0.0	30.0	0.0	0.0	25.0	8.6
Buses	1	1	0	0	2	0	6	2	0	8	0	1	0	0	1	0	4	0	0	4	15
Single-Unit Trucks	1	8	0	0	9	1	5	0	0	6	7	11	0	0	18	1	3	1	0	5	38
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	1	1	0	0	2	0	3	0	0	3	5
Total Entering Leg	2	9	0	0	11	1	11	2	0	14	8	13	0	0	21	1	10	1	0	12	58
Buses	1					4					3					7					15
Single-Unit Trucks	13					10					9					6					38
Articulated Trucks	1					4					0					0					5
Total Exiting Leg	15					18					12					13					58

PDI File #: **207732 A**
 Location: **N: Alewife Brook Parkway S: Alewife Brook Parkway**
 Location: **E: Broadway W: Broadway**
 City, State: **Somerville, MA**
 Client: **Nitsh/ B. Zimolka**
 Site Code: **TBA**
 Count Date: **Thursday, December 3, 2020**
 Start Time: **7:00 AM**
 End Time: **9:00 AM**
 Class:



Buses

	Alewife Brook Parkway					Broadway					Alewife Brook Parkway					Broadway					Total	
	from North					from East					from South					from West						
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total		
7:00 AM	0	1	0	0	1	0	3	0	0	3	0	0	0	0	0	0	1	0	0	0	1	5
7:15 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	1	0	0	1	2
7:30 AM	0	0	0	0	0	0	1	2	0	3	0	1	0	0	1	0	1	0	0	0	1	5
7:45 AM	1	0	0	0	1	0	1	0	0	1	0	0	0	0	0	0	1	0	0	0	1	3
Total	1	1	0	0	2	0	6	2	0	8	0	1	0	0	1	0	4	0	0	0	4	15
8:00 AM	0	0	0	0	0	0	1	1	0	2	0	1	0	0	1	0	0	0	0	0	0	3
8:15 AM	0	0	0	0	0	0	1	0	0	1	1	0	0	0	1	0	2	0	0	0	2	4
8:30 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	4	0	0	0	4	5
8:45 AM	0	1	0	0	1	0	1	0	0	1	0	0	0	0	0	0	2	0	0	0	2	4
Total	0	1	0	0	1	0	4	1	0	5	1	1	0	0	2	0	8	0	0	0	8	16
Grand Total	1	2	0	0	3	0	10	3	0	13	1	2	0	0	3	0	12	0	0	0	12	31
Approach %	33.3	66.7	0.0	0.0		0.0	76.9	23.1	0.0		33.3	66.7	0.0	0.0		0.0	100.0	0.0	0.0			
Total %	3.2	6.5	0.0	0.0	9.7	0.0	32.3	9.7	0.0	41.9	3.2	6.5	0.0	0.0	9.7	0.0	38.7	0.0	0.0		38.7	
Exiting Leg Total	2					13					5					11					31	

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

8:00 AM	Alewife Brook Parkway					Broadway					Alewife Brook Parkway					Broadway					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	
8:00 AM	0	0	0	0	0	0	1	1	0	2	0	1	0	0	1	0	0	0	0	0	3
8:15 AM	0	0	0	0	0	0	1	0	0	1	1	0	0	0	1	0	2	0	0	2	4
8:30 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	4	0	0	4	5
8:45 AM	0	1	0	0	1	0	1	0	0	1	0	0	0	0	0	0	2	0	0	2	4
Total Volume	0	1	0	0	1	0	4	1	0	5	1	1	0	0	2	0	8	0	0	8	16
% Approach Total	0.0	100.0	0.0	0.0		0.0	80.0	20.0	0.0		50.0	50.0	0.0	0.0		0.0	100.0	0.0	0.0		
PHF	0.000	0.250	0.000	0.000	0.250	0.000	1.000	0.250	0.000	0.625	0.250	0.250	0.000	0.000	0.500	0.000	0.500	0.000	0.000	0.500	0.800
Entering Leg	0	1	0	0	1	0	4	1	0	5	1	1	0	0	2	0	8	0	0	8	16
Exiting Leg	1					9					2					4					16
Total	2					14					4					12					32

PDI File #: **207732 A**
 Location: **N: Alewife Brook Parkway S: Alewife Brook Parkway**
 Location: **E: Broadway W: Broadway**
 City, State: **Somerville, MA**
 Client: **Nitsh/ B. Zimolka**
 Site Code: **TBA**
 Count Date: **Thursday, December 3, 2020**
 Start Time: **7:00 AM**
 End Time: **9:00 AM**
 Class:



Single-Unit Trucks

	Alewife Brook Parkway					Broadway					Alewife Brook Parkway					Broadway					Total
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	
7:00 AM	1	2	0	0	3	0	0	0	0	0	2	4	0	0	6	0	1	0	0	1	10
7:15 AM	0	1	0	0	1	1	2	0	0	3	2	1	0	0	3	1	2	0	0	3	10
7:30 AM	0	2	0	0	2	0	1	0	0	1	3	2	0	0	5	0	0	0	0	0	8
7:45 AM	0	3	0	0	3	0	2	0	0	2	0	4	0	0	4	0	0	1	0	1	10
Total	1	8	0	0	9	1	5	0	0	6	7	11	0	0	18	1	3	1	0	5	38
8:00 AM	0	2	0	0	2	1	0	0	0	1	1	1	0	0	2	0	1	0	0	1	6
8:15 AM	1	1	0	0	2	0	2	0	0	2	3	0	0	0	3	0	1	0	0	1	8
8:30 AM	0	0	0	0	0	0	3	2	0	5	1	2	0	0	3	0	1	0	0	1	9
8:45 AM	0	2	0	0	2	0	1	0	0	1	1	3	0	0	4	0	0	0	0	0	7
Total	1	5	0	0	6	1	6	2	0	9	6	6	0	0	12	0	3	0	0	3	30
Grand Total	2	13	0	0	15	2	11	2	0	15	13	17	0	0	30	1	6	1	0	8	68
Approach %	13.3	86.7	0.0	0.0		13.3	73.3	13.3	0.0		43.3	56.7	0.0	0.0		12.5	75.0	12.5	0.0		
Total %	2.9	19.1	0.0	0.0	22.1	2.9	16.2	2.9	0.0	22.1	19.1	25.0	0.0	0.0	44.1	1.5	8.8	1.5	0.0	11.8	
Exiting Leg Total	20					19					16					13					68

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:00 AM	Alewife Brook Parkway					Broadway					Alewife Brook Parkway					Broadway					Total
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	
7:00 AM	1	2	0	0	3	0	0	0	0	0	2	4	0	0	6	0	1	0	0	1	10
7:15 AM	0	1	0	0	1	1	2	0	0	3	2	1	0	0	3	1	2	0	0	3	10
7:30 AM	0	2	0	0	2	0	1	0	0	1	3	2	0	0	5	0	0	0	0	0	8
7:45 AM	0	3	0	0	3	0	2	0	0	2	0	4	0	0	4	0	0	1	0	1	10
Total Volume	1	8	0	0	9	1	5	0	0	6	7	11	0	0	18	1	3	1	0	5	38
% Approach Total	11.1	88.9	0.0	0.0		16.7	83.3	0.0	0.0		38.9	61.1	0.0	0.0		20.0	60.0	20.0	0.0		
PHF	0.250	0.667	0.000	0.000	0.750	0.250	0.625	0.000	0.000	0.500	0.583	0.688	0.000	0.000	0.750	0.250	0.375	0.250	0.000	0.417	0.950
Entering Leg	1	8	0	0	9	1	5	0	0	6	7	11	0	0	18	1	3	1	0	5	38
Exiting Leg	13					10					9					6					38
Total	22					16					27					11					76

PDI File #: **207732 A**
 Location: **N: Alewife Brook Parkway S: Alewife Brook Parkway**
 Location: **E: Broadway W: Broadway**
 City, State: **Somerville, MA**
 Client: **Nitsh/ B. Zimolka**
 Site Code: **TBA**
 Count Date: **Thursday, December 3, 2020**
 Start Time: **7:00 AM**
 End Time: **9:00 AM**
 Class:



Articulated Trucks

	Alewife Brook Parkway					Broadway					Alewife Brook Parkway					Broadway					Total	
	from North					from East					from South					from West						
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total		
7:00 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	1
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	2
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	1
Total	0	0	0	0	0	0	0	0	0	0	1	1	0	0	2	0	3	0	0	3	5	
8:00 AM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
8:15 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	1	0	0	1	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	3	
Grand Total	0	1	0	0	1	0	1	0	0	1	1	1	0	0	2	0	4	0	0	4	8	
Approach %	0.0	100.0	0.0	0.0		0.0	100.0	0.0	0.0		50.0	50.0	0.0	0.0		0.0	100.0	0.0	0.0			
Total %	0.0	12.5	0.0	0.0	12.5	0.0	12.5	0.0	0.0	12.5	12.5	12.5	0.0	0.0	25.0	0.0	50.0	0.0	0.0	50.0		
Exiting Leg Total	1					5					1					1					8	

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:00 AM	Alewife Brook Parkway					Broadway					Alewife Brook Parkway					Broadway					Total	
	from North					from East					from South					from West						
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total		
7:00 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	1
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	2
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	1
Total Volume	0	0	0	0	0	0	0	0	0	0	1	1	0	0	2	0	3	0	0	3	5	
% Approach Total	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		50.0	50.0	0.0	0.0		0.0	100.0	0.0	0.0			
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.250	0.000	0.000	0.500	0.000	0.375	0.000	0.000	0.375	0.625	
Entering Leg	0	0	0	0	0	0	0	0	0	0	1	1	0	0	2	0	3	0	0	3	5	
Exiting Leg	1					4					0					0					5	
Total	1					4					2					3					10	

PDI File #: **207732 A**
 Location: **N: Alewife Brook Parkway S: Alewife Brook Parkway**
 Location: **E: Broadway W: Broadway**
 City, State: **Somerville, MA**
 Client: **Nitsh/ B. Zimolka**
 Site Code: **TBA**
 Count Date: **Thursday, December 3, 2020**
 Start Time: **7:00 AM**
 End Time: **9:00 AM**
 Class:



Bicycles (on Roadway and Crosswalks)

	Alewife Brook Parkway							Broadway							Alewife Brook Parkway							Broadway							Total	
	from North							from East							from South							from West								
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total		
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	2	2		
7:15 AM	0	0	0	0	0	1	1	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	2	3	5		
7:30 AM	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	5	6	7		
7:45 AM	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	1	2	3		
Total	0	0	0	0	0	1	1	0	3	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	4	9	13	17		
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1		
8:15 AM	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	2	3		
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	3		
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	4	4		
Total	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	5	0	0	3	2	10	11
Grand Total	0	0	0	0	0	1	1	0	4	0	0	0	0	4	0	0	0	0	0	0	0	0	5	0	0	7	11	23	28	
Approach %	0.0	0.0	0.0	0.0	0.0	100.0		0.0	100.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	21.7	0.0	0.0	30.4	47.8			
Total %	0.0	0.0	0.0	0.0	0.0	3.6	3.6	0.0	14.3	0.0	0.0	0.0	0.0	14.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	17.9	0.0	0.0	25.0	39.3	82.1		
Exiting Leg Total	1							5							0							22							28	

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:00 AM	Alewife Brook Parkway							Broadway							Alewife Brook Parkway							Broadway							Total
	from North							from East							from South							from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	2	2
7:15 AM	0	0	0	0	0	1	1	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	2	3	5
7:30 AM	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	5	6	7
7:45 AM	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	1	2	3
Total Volume	0	0	0	0	0	1	1	0	3	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	4	9	13	17
% Approach Total	0.0	0.0	0.0	0.0	0.0	100.0		0.0	100.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	30.8	69.2		
PHF	0.000	0.000	0.000	0.000	0.000	0.250	0.250	0.000	0.750	0.000	0.000	0.000	0.000	0.750	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.000	0.450	0.542		0.607
Entering Leg	0	0	0	0	0	1	1	0	3	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	4	9	13	17
Exiting Leg	1							0							0							16							17
Total	2							3							0							29							34

PDI File #: **207732 A**
 Location: **N: Alewife Brook Parkway S: Alewife Brook Parkway**
 Location: **E: Broadway W: Broadway**
 City, State: **Somerville, MA**
 Client: **Nitsh/ B. Zimolka**
 Site Code: **TBA**
 Count Date: **Thursday, December 3, 2020**
 Start Time: **7:00 AM**
 End Time: **9:00 AM**
 Class:



Pedestrians

	Alewife Brook Parkway							Broadway							Alewife Brook Parkway							Broadway							Total	
	from North							from East							from South							from West								
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total		
7:00 AM	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1	4	5	0	0	0	0	1	1	2	8
7:15 AM	0	0	0	0	2	2	4	0	0	0	0	0	0	0	0	0	0	0	1	1	2	0	0	0	0	4	0	4	10	
7:30 AM	0	0	0	0	6	1	7	0	0	0	0	0	0	0	0	0	0	0	0	4	4	0	0	0	0	1	0	1	12	
7:45 AM	0	0	0	0	4	4	8	0	0	0	0	0	0	0	0	0	0	0	3	0	3	0	0	0	0	4	0	4	15	
Total	0	0	0	0	12	8	20	0	0	0	0	0	0	0	0	0	0	0	5	9	14	0	0	0	0	10	1	11	45	
8:00 AM	0	0	0	0	6	1	7	0	0	0	0	0	0	0	0	0	0	0	0	4	4	0	0	0	0	4	2	6	17	
8:15 AM	0	0	0	0	2	3	5	0	0	0	0	0	0	2	2	0	0	0	0	3	2	5	0	0	0	0	0	4	16	
8:30 AM	0	0	0	0	3	1	4	0	0	0	0	0	0	0	0	0	0	0	0	3	3	0	0	0	0	3	1	4	11	
8:45 AM	0	0	0	0	2	1	3	0	0	0	0	0	0	0	0	0	0	0	0	4	4	0	0	0	0	0	0	0	7	
Total	0	0	0	0	13	6	19	0	0	0	0	0	2	2	0	0	0	0	3	13	16	0	0	0	0	7	7	14	51	
Grand Total	0	0	0	0	25	14	39	0	0	0	0	0	2	2	0	0	0	0	8	22	30	0	0	0	0	17	8	25	96	
Approach %	0	0	0	0	64.1	35.9		0	0	0	0	0	100		0	0	0	0	26.7	73.3		0	0	0	0	68	32			
Total %	0	0	0	0	26	14.6	40.6	0	0	0	0	0	2.08	2.08	0	0	0	0	8.33	22.9	31.3	0	0	0	0	17.7	8.33	26		
Exiting Leg Total	39							2							30							25							96	

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:30 AM	Alewife Brook Parkway							Broadway							Alewife Brook Parkway							Broadway							Total
	from North							from East							from South							from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	
7:30 AM	0	0	0	0	6	1	7	0	0	0	0	0	0	0	0	0	0	0	0	4	4	0	0	0	0	1	0	1	12
7:45 AM	0	0	0	0	4	4	8	0	0	0	0	0	0	0	0	0	0	0	3	0	3	0	0	0	0	4	0	4	15
8:00 AM	0	0	0	0	6	1	7	0	0	0	0	0	0	0	0	0	0	0	0	4	4	0	0	0	0	4	2	6	17
8:15 AM	0	0	0	0	2	3	5	0	0	0	0	0	2	2	0	0	0	0	3	2	5	0	0	0	0	0	4	4	16
Total Volume	0	0	0	0	18	9	27	0	0	0	0	0	2	2	0	0	0	0	6	10	16	0	0	0	0	9	6	15	60
% Approach Total	0.0	0.0	0.0	0.0	66.7	33.3		0.0	0.0	0.0	0.0	0.0	100.0		0.0	0.0	0.0	0.0	37.5	62.5		0.0	0.0	0.0	0.0	60.0	40.0		
PHF	0.000	0.000	0.000	0.000	0.750	0.563	0.844	0.000	0.000	0.000	0.000	0.250	0.250		0.000	0.000	0.000	0.000	0.500	0.625	0.800	0.000	0.000	0.000	0.000	0.563	0.375	0.625	0.882
Entering Leg	0	0	0	0	18	9	27	0	0	0	0	0	2	2	0	0	0	0	6	10	16	0	0	0	0	9	6	15	60
Exiting Leg	27							2							16							15							60
Total	54							4							32							30							120

PDI File #: **207732 A**
 Location: **N: Alewife Brook Parkway S: Alewife Brook Parkway**
 Location: **E: Broadway W: Broadway**
 City, State: **Somerville, MA**
 Client: **Nitsh/ B. Zimolka**
 Site Code: **TBA**
 Count Date: **Thursday, December 3, 2020**
 Start Time: **4:00 PM**
 End Time: **6:00 PM**
 Class:



Cars and Heavy Vehicles (Combined)

	Alewife Brook Parkway					Broadway					Alewife Brook Parkway					Broadway					Total
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	
4:00 PM	16	147	5	0	168	5	33	30	0	68	40	164	3	0	207	6	37	29	0	72	515
4:15 PM	19	135	2	0	156	9	34	22	0	65	30	145	4	0	179	15	41	27	0	83	483
4:30 PM	12	130	3	0	145	3	31	20	0	54	32	189	6	0	227	7	48	32	0	87	513
4:45 PM	14	134	3	0	151	9	42	27	0	78	43	149	7	0	199	5	45	27	0	77	505
Total	61	546	13	0	620	26	140	99	0	265	145	647	20	0	812	33	171	115	0	319	2016
5:00 PM	19	109	1	0	129	5	29	24	0	58	40	149	2	0	191	4	42	36	0	82	460
5:15 PM	15	125	5	0	145	5	26	22	0	53	37	155	5	0	197	6	37	42	0	85	480
5:30 PM	10	154	9	0	173	3	45	21	0	69	48	155	2	0	205	6	47	28	0	81	528
5:45 PM	18	120	2	0	140	11	39	16	0	66	43	156	5	0	204	12	36	27	0	75	485
Total	62	508	17	0	587	24	139	83	0	246	168	615	14	0	797	28	162	133	0	323	1953
Grand Total	123	1054	30	0	1207	50	279	182	0	511	313	1262	34	0	1609	61	333	248	0	642	3969
Approach %	10.2	87.3	2.5	0.0		9.8	54.6	35.6	0.0		19.5	78.4	2.1	0.0		9.5	51.9	38.6	0.0		
Total %	3.1	26.6	0.8	0.0	30.4	1.3	7.0	4.6	0.0	12.9	7.9	31.8	0.9	0.0	40.5	1.5	8.4	6.2	0.0	16.2	
Exiting Leg Total	1560					676					1297					436					3969
Cars	123	1051	29	0	1203	48	266	178	0	492	312	1252	34	0	1598	61	325	248	0	634	3927
% Cars	100.0	99.7	96.7	0.0	99.7	96.0	95.3	97.8	0.0	96.3	99.7	99.2	100.0	0.0	99.3	100.0	97.6	100.0	0.0	98.8	98.9
Exiting Leg Total	1548					666					1290					423					3927
Heavy Vehicles	0	3	1	0	4	2	13	4	0	19	1	10	0	0	11	0	8	0	0	8	42
% Heavy Vehicles	0.0	0.3	3.3	0.0	0.3	4.0	4.7	2.2	0.0	3.7	0.3	0.8	0.0	0.0	0.7	0.0	2.4	0.0	0.0	1.2	1.1
Exiting Leg Total	12					10					7					13					42

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Alewife Brook Parkway					Broadway					Alewife Brook Parkway					Broadway					Total
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	
4:00 PM	16	147	5	0	168	5	33	30	0	68	40	164	3	0	207	6	37	29	0	72	515
4:15 PM	19	135	2	0	156	9	34	22	0	65	30	145	4	0	179	15	41	27	0	83	483
4:30 PM	12	130	3	0	145	3	31	20	0	54	32	189	6	0	227	7	48	32	0	87	513
4:45 PM	14	134	3	0	151	9	42	27	0	78	43	149	7	0	199	5	45	27	0	77	505
Total Volume	61	546	13	0	620	26	140	99	0	265	145	647	20	0	812	33	171	115	0	319	2016
% Approach Total	9.8	88.1	2.1	0.0		9.8	52.8	37.4	0.0		17.9	79.7	2.5	0.0		10.3	53.6	36.1	0.0		
PHF	0.803	0.929	0.650	0.000	0.923	0.722	0.833	0.825	0.000	0.849	0.843	0.856	0.714	0.000	0.894	0.550	0.891	0.898	0.000	0.917	0.979
Cars	61	544	12	0	617	24	131	96	0	251	144	642	20	0	806	33	166	115	0	314	1988
Cars %	100.0	99.6	92.3	0.0	99.5	92.3	93.6	97.0	0.0	94.7	99.3	99.2	100.0	0.0	99.3	100.0	97.1	100.0	0.0	98.4	98.6
Heavy Vehicles	0	2	1	0	3	2	9	3	0	14	1	5	0	0	6	0	5	0	0	5	28
Heavy Vehicles %	0.0	0.4	7.7	0.0	0.5	7.7	6.4	3.0	0.0	5.3	0.7	0.8	0.0	0.0	0.7	0.0	2.9	0.0	0.0	1.6	1.4
Cars Enter Leg	61	544	12	0	617	24	131	96	0	251	144	642	20	0	806	33	166	115	0	314	1988
Heavy Enter Leg	0	2	1	0	3	2	9	3	0	14	1	5	0	0	6	0	5	0	0	5	28
Total Entering Leg	61	546	13	0	620	26	140	99	0	265	145	647	20	0	812	33	171	115	0	319	2016
Cars Exiting Leg	781					322					673					212					1988
Heavy Exiting Leg	7					7					5					9					28
Total Exiting Leg	788					329					678					221					2016

PDI File #: **207732 A**
 Location: **N: Alewife Brook Parkway S: Alewife Brook Parkway**
 Location: **E: Broadway W: Broadway**
 City, State: **Somerville, MA**
 Client: **Nitsh/ B. Zimolka**
 Site Code: **TBA**
 Count Date: **Thursday, December 3, 2020**
 Start Time: **4:00 PM**
 End Time: **6:00 PM**
 Class:



Cars

	Alewife Brook Parkway					Broadway					Alewife Brook Parkway					Broadway					Total
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	
4:00 PM	16	147	5	0	168	5	29	28	0	62	39	163	3	0	205	6	36	29	0	71	506
4:15 PM	19	134	1	0	154	9	33	21	0	63	30	145	4	0	179	15	39	27	0	81	477
4:30 PM	12	129	3	0	144	2	28	20	0	50	32	185	6	0	223	7	47	32	0	86	503
4:45 PM	14	134	3	0	151	8	41	27	0	76	43	149	7	0	199	5	44	27	0	76	502
Total	61	544	12	0	617	24	131	96	0	251	144	642	20	0	806	33	166	115	0	314	1988
5:00 PM	19	109	1	0	129	5	28	24	0	57	40	148	2	0	190	4	41	36	0	81	457
5:15 PM	15	125	5	0	145	5	26	21	0	52	37	154	5	0	196	6	36	42	0	84	477
5:30 PM	10	154	9	0	173	3	43	21	0	67	48	154	2	0	204	6	46	28	0	80	524
5:45 PM	18	119	2	0	139	11	38	16	0	65	43	154	5	0	202	12	36	27	0	75	481
Total	62	507	17	0	586	24	135	82	0	241	168	610	14	0	792	28	159	133	0	320	1939
Grand Total	123	1051	29	0	1203	48	266	178	0	492	312	1252	34	0	1598	61	325	248	0	634	3927
Approach %	10.2	87.4	2.4	0.0		9.8	54.1	36.2	0.0		19.5	78.3	2.1	0.0		9.6	51.3	39.1	0.0		
Total %	3.1	26.8	0.7	0.0	30.6	1.2	6.8	4.5	0.0	12.5	7.9	31.9	0.9	0.0	40.7	1.6	8.3	6.3	0.0	16.1	
Exiting Leg Total	1548					666					1290					423					3927

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Alewife Brook Parkway					Broadway					Alewife Brook Parkway					Broadway					Total
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	
4:00 PM	16	147	5	0	168	5	29	28	0	62	39	163	3	0	205	6	36	29	0	71	506
4:15 PM	19	134	1	0	154	9	33	21	0	63	30	145	4	0	179	15	39	27	0	81	477
4:30 PM	12	129	3	0	144	2	28	20	0	50	32	185	6	0	223	7	47	32	0	86	503
4:45 PM	14	134	3	0	151	8	41	27	0	76	43	149	7	0	199	5	44	27	0	76	502
Total Volume	61	544	12	0	617	24	131	96	0	251	144	642	20	0	806	33	166	115	0	314	1988
% Approach Total	9.9	88.2	1.9	0.0		9.6	52.2	38.2	0.0		17.9	79.7	2.5	0.0		10.5	52.9	36.6	0.0		
PHF	0.803	0.925	0.600	0.000	0.918	0.667	0.799	0.857	0.000	0.826	0.837	0.868	0.714	0.000	0.904	0.550	0.883	0.898	0.000	0.913	0.982
Entering Leg	61	544	12	0	617	24	131	96	0	251	144	642	20	0	806	33	166	115	0	314	1988
Exiting Leg	781					322					673					212					1988
Total	1398					573					1479					526					3976

PDI File #: **207732 A**
 Location: **N: Alewife Brook Parkway S: Alewife Brook Parkway**
 Location: **E: Broadway W: Broadway**
 City, State: **Somerville, MA**
 Client: **Nitsh/ B. Zimolka**
 Site Code: **TBA**
 Count Date: **Thursday, December 3, 2020**
 Start Time: **4:00 PM**
 End Time: **6:00 PM**
 Class: **Heavy Vehicles-Combined (Buses, Single-Unit Trucks, Articulated Trucks)**



	Alewife Brook Parkway					Broadway					Alewife Brook Parkway					Broadway					Total
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	
4:00 PM	0	0	0	0	0	0	4	2	0	6	1	1	0	0	2	0	1	0	0	1	9
4:15 PM	0	1	1	0	2	0	1	1	0	2	0	0	0	0	0	0	2	0	0	2	6
4:30 PM	0	1	0	0	1	1	3	0	0	4	0	4	0	0	4	0	1	0	0	1	10
4:45 PM	0	0	0	0	0	1	1	0	0	2	0	0	0	0	0	0	1	0	0	1	3
Total	0	2	1	0	3	2	9	3	0	14	1	5	0	0	6	0	5	0	0	5	28
5:00 PM	0	0	0	0	0	0	1	0	0	1	0	1	0	0	1	0	1	0	0	1	3
5:15 PM	0	0	0	0	0	0	0	1	0	1	0	1	0	0	1	0	1	0	0	1	3
5:30 PM	0	0	0	0	0	0	2	0	0	2	0	1	0	0	1	0	1	0	0	1	4
5:45 PM	0	1	0	0	1	0	1	0	0	1	0	2	0	0	2	0	0	0	0	0	4
Total	0	1	0	0	1	0	4	1	0	5	0	5	0	0	5	0	3	0	0	3	14
Grand Total	0	3	1	0	4	2	13	4	0	19	1	10	0	0	11	0	8	0	0	8	42
Approach %	0.0	75.0	25.0	0.0		10.5	68.4	21.1	0.0		9.1	90.9	0.0	0.0		0.0	100.0	0.0	0.0		
Total %	0.0	7.1	2.4	0.0	9.5	4.8	31.0	9.5	0.0	45.2	2.4	23.8	0.0	0.0	26.2	0.0	19.0	0.0	0.0	19.0	
Exiting Leg Total	12					10					7					13					42
Buses	0	0	0	0	0	0	9	2	0	11	1	1	0	0	2	0	6	0	0	6	19
% Buses	0.0	0.0	0.0	0.0	0.0	0.0	69.2	50.0	0.0	57.9	100.0	10.0	0.0	0.0	18.2	0.0	75.0	0.0	0.0	75.0	45.2
Exiting Leg Total	1					7					2					9					19
Single-Unit Trucks	0	3	1	0	4	2	2	2	0	6	0	8	0	0	8	0	1	0	0	1	19
% Single-Unit	0.0	100.0	100.0	0.0	100.0	100.0	15.4	50.0	0.0	31.6	0.0	80.0	0.0	0.0	72.7	0.0	12.5	0.0	0.0	12.5	45.2
Exiting Leg Total	10					2					5					2					19
Articulated Trucks	0	0	0	0	0	0	2	0	0	2	0	1	0	0	1	0	1	0	0	1	4
% Articulated	0.0	0.0	0.0	0.0	0.0	0.0	15.4	0.0	0.0	10.5	0.0	10.0	0.0	0.0	9.1	0.0	12.5	0.0	0.0	12.5	9.5
Exiting Leg Total	1					1					0					2					4

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Alewife Brook Parkway					Broadway					Alewife Brook Parkway					Broadway					Total
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	
4:00 PM	0	0	0	0	0	0	4	2	0	6	1	1	0	0	2	0	1	0	0	1	9
4:15 PM	0	1	1	0	2	0	1	1	0	2	0	0	0	0	0	0	2	0	0	2	6
4:30 PM	0	1	0	0	1	1	3	0	0	4	0	4	0	0	4	0	1	0	0	1	10
4:45 PM	0	0	0	0	0	1	1	0	0	2	0	0	0	0	0	0	1	0	0	1	3
Total Volume	0	2	1	0	3	2	9	3	0	14	1	5	0	0	6	0	5	0	0	5	28
% Approach Total	0.0	66.7	33.3	0.0		14.3	64.3	21.4	0.0		16.7	83.3	0.0	0.0		0.0	100.0	0.0	0.0		
PHF	0.000	0.500	0.250	0.000	0.375	0.500	0.563	0.375	0.000	0.583	0.250	0.313	0.000	0.000	0.375	0.000	0.625	0.000	0.000	0.625	0.700
Buses	0	0	0	0	0	0	6	1	0	7	1	0	0	0	1	0	3	0	0	3	11
Buses %	0.0	0.0	0.0	0.0	0.0	0.0	66.7	33.3	0.0	50.0	100.0	0.0	0.0	0.0	16.7	0.0	60.0	0.0	0.0	60.0	39.3
Single-Unit Trucks	0	2	1	0	3	2	1	2	0	5	0	5	0	0	5	0	1	0	0	1	14
Single-Unit %	0.0	100.0	100.0	0.0	100.0	100.0	11.1	66.7	0.0	35.7	0.0	100.0	0.0	0.0	83.3	0.0	20.0	0.0	0.0	20.0	50.0
Articulated Trucks	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	1	0	0	1	3
Articulated %	0.0	0.0	0.0	0.0	0.0	0.0	22.2	0.0	0.0	14.3	0.0	0.0	0.0	0.0	0.0	0.0	20.0	0.0	0.0	20.0	10.7
Buses	0	0	0	0	0	0	6	1	0	7	1	0	0	0	1	0	3	0	0	3	11
Single-Unit Trucks	0	2	1	0	3	2	1	2	0	5	0	5	0	0	5	0	1	0	0	1	14
Articulated Trucks	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	1	0	0	1	3
Total Entering Leg	0	2	1	0	3	2	9	3	0	14	1	5	0	0	6	0	5	0	0	5	28
Buses	0					4					1					6					11
Single-Unit Trucks	7					2					4					1					14
Articulated Trucks	0					1					0					2					3
Total Exiting Leg	7					7					5					9					28

PDI File #: **207732 A**
 Location: **N: Alewife Brook Parkway S: Alewife Brook Parkway**
 Location: **E: Broadway W: Broadway**
 City, State: **Somerville, MA**
 Client: **Nitsh/ B. Zimolka**
 Site Code: **TBA**
 Count Date: **Thursday, December 3, 2020**
 Start Time: **4:00 PM**
 End Time: **6:00 PM**
 Class:



Buses

	Alewife Brook Parkway					Broadway					Alewife Brook Parkway					Broadway					Total
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	
4:00 PM	0	0	0	0	0	0	3	1	0	4	1	0	0	0	1	0	1	0	0	1	6
4:15 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	2
4:30 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	2
4:45 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
Total	0	0	0	0	0	0	6	1	0	7	1	0	0	0	1	0	3	0	0	3	11
5:00 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	2
5:15 PM	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	1	0	0	1	2
5:30 PM	0	0	0	0	0	0	1	0	0	1	0	1	0	0	1	0	1	0	0	1	3
5:45 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
Total	0	0	0	0	0	0	3	1	0	4	0	1	0	0	1	0	3	0	0	3	8
Grand Total	0	0	0	0	0	0	9	2	0	11	1	1	0	0	2	0	6	0	0	6	19
Approach %	0.0	0.0	0.0	0.0		0.0	81.8	18.2	0.0		50.0	50.0	0.0	0.0		0.0	100.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	47.4	10.5	0.0	57.9	5.3	5.3	0.0	0.0	10.5	0.0	31.6	0.0	0.0	31.6	
Exiting Leg Total	1					7					2					9					19

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Alewife Brook Parkway					Broadway					Alewife Brook Parkway					Broadway						
	from North					from East					from South					from West						
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total		Total
4:00 PM	0	0	0	0	0	0	3	1	0	4	1	0	0	0	1	0	1	0	0	1	6	
4:15 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	2	
4:30 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	2	
4:45 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1	
Total Volume	0	0	0	0	0	0	6	1	0	7	1	0	0	0	1	0	3	0	0	3	11	
% Approach Total	0.0	0.0	0.0	0.0		0.0	85.7	14.3	0.0		100.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0			
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.500	0.250	0.000	0.438	0.250	0.000	0.000	0.000	0.250	0.000	0.750	0.000	0.000	0.750	0.458	
Entering Leg	0	0	0	0	0	0	6	1	0	7	1	0	0	0	1	0	3	0	0	3	11	
Exiting Leg						0					4					1					6	11
Total	0					11					2					9					22	

PDI File #: **207732 A**
 Location: **N: Alewife Brook Parkway S: Alewife Brook Parkway**
 Location: **E: Broadway W: Broadway**
 City, State: **Somerville, MA**
 Client: **Nitsh/ B. Zimolka**
 Site Code: **TBA**
 Count Date: **Thursday, December 3, 2020**
 Start Time: **4:00 PM**
 End Time: **6:00 PM**
 Class:



Single-Unit Trucks

	Alewife Brook Parkway					Broadway					Alewife Brook Parkway					Broadway					Total
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	
4:00 PM	0	0	0	0	0	0	0	1	0	1	0	1	0	0	1	0	0	0	0	0	2
4:15 PM	0	1	1	0	2	0	0	1	0	1	0	0	0	0	0	0	1	0	0	1	4
4:30 PM	0	1	0	0	1	1	1	0	0	2	0	4	0	0	4	0	0	0	0	0	7
4:45 PM	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
Total	0	2	1	0	3	2	1	2	0	5	0	5	0	0	5	0	1	0	0	1	14
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
5:45 PM	0	1	0	0	1	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	3
Total	0	1	0	0	1	0	1	0	0	1	0	3	0	0	3	0	0	0	0	0	5
Grand Total	0	3	1	0	4	2	2	2	0	6	0	8	0	0	8	0	1	0	0	1	19
Approach %	0.0	75.0	25.0	0.0		33.3	33.3	33.3	0.0		0.0	100.0	0.0	0.0		0.0	100.0	0.0	0.0		
Total %	0.0	15.8	5.3	0.0	21.1	10.5	10.5	10.5	0.0	31.6	0.0	42.1	0.0	0.0	42.1	0.0	5.3	0.0	0.0	5.3	
Exiting Leg Total	10					2					5					2					19

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Alewife Brook Parkway					Broadway					Alewife Brook Parkway					Broadway					
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	
4:00 PM	0	0	0	0	0	0	0	1	0	1	0	1	0	0	1	0	0	0	0	0	2
4:15 PM	0	1	1	0	2	0	0	1	0	1	0	0	0	0	0	0	1	0	0	1	4
4:30 PM	0	1	0	0	1	1	1	0	0	2	0	4	0	0	4	0	0	0	0	0	7
4:45 PM	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
Total Volume	0	2	1	0	3	2	1	2	0	5	0	5	0	0	5	0	1	0	0	1	14
% Approach Total	0.0	66.7	33.3	0.0		40.0	20.0	40.0	0.0		0.0	100.0	0.0	0.0		0.0	100.0	0.0	0.0		
PHF	0.000	0.500	0.250	0.000	0.375	0.500	0.250	0.500	0.000	0.625	0.000	0.313	0.000	0.000	0.313	0.000	0.250	0.000	0.000	0.250	0.500
Entering Leg	0	2	1	0	3	2	1	2	0	5	0	5	0	0	5	0	1	0	0	1	14
Exiting Leg					7					2					4					1	14
Total					10					7					9					2	28

PDI File #: **207732 A**
 Location: **N: Alewife Brook Parkway S: Alewife Brook Parkway**
 Location: **E: Broadway W: Broadway**
 City, State: **Somerville, MA**
 Client: **Nitsh/ B. Zimolka**
 Site Code: **TBA**
 Count Date: **Thursday, December 3, 2020**
 Start Time: **4:00 PM**
 End Time: **6:00 PM**
 Class:



Articulated Trucks

	Alewife Brook Parkway					Broadway					Alewife Brook Parkway					Broadway					Total
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	
4:00 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
Total	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	1	0	0	1	3
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
Grand Total	0	0	0	0	0	0	2	0	0	2	0	1	0	0	1	0	1	0	0	1	4
Approach %	0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		0.0	100.0	0.0	0.0		0.0	100.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	50.0	0.0	0.0	50.0	0.0	25.0	0.0	0.0	25.0	0.0	25.0	0.0	0.0	25.0	
Exiting Leg Total	1					1					0					2					4

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Alewife Brook Parkway					Broadway					Alewife Brook Parkway					Broadway					Total
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	
4:00 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
Total Volume	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	1	0	0	1	3
% Approach Total	0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	100.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.500	0.000	0.000	0.500	0.000	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.250	0.750
Entering Leg	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	1	0	0	1	3
Exiting Leg	0					1					0					2					3
Total	0					3					0					3					

PDI File #: **207732 A**
 Location: **N: Alewife Brook Parkway S: Alewife Brook Parkway**
 Location: **E: Broadway W: Broadway**
 City, State: **Somerville, MA**
 Client: **Nitsh/ B. Zimolka**
 Site Code: **TBA**
 Count Date: **Thursday, December 3, 2020**
 Start Time: **4:00 PM**
 End Time: **6:00 PM**



Class:

Bicycles (on Roadway and Crosswalks)

	Alewife Brook Parkway							Broadway							Alewife Brook Parkway							Broadway							Total
	from North							from East							from South							from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	
4:00 PM	0	0	0	0	0	1	1	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	1	3	
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	3	0	4	
4:30 PM	0	0	0	0	1	0	1	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	2	
4:45 PM	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	1	0	3	
Total	0	0	0	0	2	1	3	0	2	0	0	0	0	2	0	0	0	0	0	0	0	0	3	0	0	4	1	8	13
5:00 PM	0	0	0	0	0	0	0	0	2	0	0	0	0	2	1	0	0	0	0	0	0	1	0	1	0	0	0	1	4
5:15 PM	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	2	3
5:30 PM	0	0	0	0	1	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	4
5:45 PM	0	0	0	0	0	1	1	1	1	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	3	1	4	7
Total	0	0	0	0	1	3	4	1	3	0	0	0	0	4	1	0	0	0	0	0	1	0	2	0	0	5	2	9	18
Grand Total	0	0	0	0	3	4	7	1	5	0	0	0	0	6	1	0	0	0	0	0	1	0	5	0	0	9	3	17	31
Approach %	0.0	0.0	0.0	0.0	42.9	57.1		16.7	83.3	0.0	0.0	0.0	0.0		100.0	0.0	0.0	0.0	0.0	0.0		0.0	29.4	0.0	0.0	52.9	17.6		
Total %	0.0	0.0	0.0	0.0	9.7	12.9	22.6	3.2	16.1	0.0	0.0	0.0	0.0	19.4	3.2	0.0	0.0	0.0	0.0	0.0	3.2	0.0	16.1	0.0	0.0	29.0	9.7	54.8	
Exiting Leg Total	8							6							0							17							31

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

5:00 PM	Alewife Brook Parkway							Broadway							Alewife Brook Parkway							Broadway							Total	
	from North							from East							from South							from West								
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total		
5:00 PM	0	0	0	0	0	0	0	0	2	0	0	0	0	0	2	1	0	0	0	0	0	1	0	1	0	0	0	0	1	4
5:15 PM	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	2	3
5:30 PM	0	0	0	0	0	1	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	4
5:45 PM	0	0	0	0	0	0	1	1	1	1	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	3	1	4	7
Total Volume	0	0	0	0	1	3	4	1	3	0	0	0	0	4	1	0	0	0	0	0	0	1	0	2	0	0	5	2	9	18
% Approach Total	0.0	0.0	0.0	0.0	25.0	75.0		25.0	75.0	0.0	0.0	0.0	0.0		100.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	22.2	0.0	0.0	55.6	22.2		
PHF	0.000	0.000	0.000	0.000	0.250	0.750	0.500	0.250	0.375	0.000	0.000	0.000	0.000	0.500	0.250	0.000	0.000	0.000	0.000	0.000	0.250	0.000	0.500	0.000	0.000	0.417	0.500	0.563	0.643	
Entering Leg	0	0	0	0	1	3	4	1	3	0	0	0	0	4	1	0	0	0	0	0	0	1	0	2	0	0	5	2	9	18
Exiting Leg	5							3							0							10							18	
Total	9							7							1							19							36	

PDI File #: **207732 A**
 Location: **N: Alewife Brook Parkway S: Alewife Brook Parkway**
 Location: **E: Broadway W: Broadway**
 City, State: **Somerville, MA**
 Client: **Nitsh/ B. Zimolka**
 Site Code: **TBA**
 Count Date: **Thursday, December 3, 2020**
 Start Time: **4:00 PM**
 End Time: **6:00 PM**
 Class:



Pedestrians

	Alewife Brook Parkway							Broadway							Alewife Brook Parkway							Broadway							Total	
	from North							from East							from South							from West								
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total		
4:00 PM	0	0	0	0	5	4	9	0	0	0	0	0	0	0	0	0	0	0	0	1	2	3	0	0	0	0	4	6	10	22
4:15 PM	0	0	0	0	9	5	14	0	0	0	0	0	1	1	0	0	0	0	1	2	3	0	0	0	0	2	1	3	21	
4:30 PM	0	0	0	0	2	5	7	0	0	0	0	0	0	0	0	0	0	0	3	2	5	0	0	0	0	5	3	8	20	
4:45 PM	0	0	0	0	5	1	6	0	0	0	0	0	1	1	0	0	0	0	3	2	5	0	0	0	0	0	0	0	12	
Total	0	0	0	0	21	15	36	0	0	0	0	0	2	2	0	0	0	0	8	8	16	0	0	0	0	11	10	21	75	
5:00 PM	0	0	0	0	14	3	17	0	0	0	0	1	0	1	0	0	0	0	1	3	4	0	0	0	0	1	3	4	26	
5:15 PM	0	0	0	0	3	9	12	0	0	0	0	0	0	0	0	0	0	0	2	1	3	0	0	0	0	0	4	4	19	
5:30 PM	0	0	0	0	4	5	9	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	5	0	5	15	
5:45 PM	0	0	0	0	5	6	11	0	0	0	0	2	0	2	0	0	0	0	4	0	4	0	0	0	0	2	0	2	19	
Total	0	0	0	0	26	23	49	0	0	0	0	3	1	4	0	0	0	0	7	4	11	0	0	0	0	8	7	15	79	
Grand Total	0	0	0	0	47	38	85	0	0	0	0	3	3	6	0	0	0	0	15	12	27	0	0	0	0	19	17	36	154	
Approach %	0	0	0	0	55.3	44.7		0	0	0	0	50	50		0	0	0	0	55.6	44.4		0	0	0	0	52.8	47.2			
Total %	0	0	0	0	30.5	24.7	55.2	0	0	0	0	1.95	1.95	3.9	0	0	0	0	9.74	7.79	17.5	0	0	0	0	12.3	11	23.4		
Exiting Leg Total	85							6							27							36							154	

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:15 PM	Alewife Brook Parkway							Broadway							Alewife Brook Parkway							Broadway							
	from North							from East							from South							from West							
	Right	Thru	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	Left	U-Turn	CW-SB	CW-NB	Total	Right	Thru	Left	U-Turn	CW-WB	CW-EB	Total	Right	Thru	Left	U-Turn	CW-NB	CW-SB	Total	
4:15 PM	0	0	0	0	9	5	14	0	0	0	0	0	1	1	0	0	0	0	1	2	3	0	0	0	0	2	1	3	21
4:30 PM	0	0	0	0	2	5	7	0	0	0	0	0	0	0	0	0	0	0	3	2	5	0	0	0	0	5	3	8	20
4:45 PM	0	0	0	0	5	1	6	0	0	0	0	0	1	1	0	0	0	0	3	2	5	0	0	0	0	0	0	0	12
5:00 PM	0	0	0	0	14	3	17	0	0	0	0	1	0	1	0	0	0	0	1	3	4	0	0	0	0	1	3	4	26
Total Volume	0	0	0	0	30	14	44	0	0	0	0	1	2	3	0	0	0	0	8	9	17	0	0	0	0	8	7	15	79
% Approach Total	0.0	0.0	0.0	0.0	68.2	31.8		0.0	0.0	0.0	0.0	33.3	66.7		0.0	0.0	0.0	0.0	47.1	52.9		0.0	0.0	0.0	0.0	53.3	46.7		
PHF	0.000	0.000	0.000	0.000	0.536	0.700	0.647	0.000	0.000	0.000	0.000	0.250	0.500	0.750	0.000	0.000	0.000	0.000	0.667	0.750	0.850	0.000	0.000	0.000	0.000	0.400	0.583	0.469	0.760
Entering Leg	0	0	0	0	30	14	44	0	0	0	0	1	2	3	0	0	0	0	8	9	17	0	0	0	0	8	7	15	79
Exiting Leg	44							3							17							15							79
Total	88							6							34							30							158

PDI File #: **207732 B**
 Location: **N: Sunnyside Avenue**
 Location: **E: Broadway W: Broadway**
 City, State: **Arlington, MA**
 Client: **Nitsh/ B. Zimolka**
 Site Code: **TBA**

Count Date: **Thursday, December 3, 2020**
 Start Time: **7:00 AM**
 End Time: **9:00 AM**



Class: **Cars and Heavy Vehicles (Combined)**

	Sunnyside Avenue				Broadway				Broadway				Total
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	
7:00 AM	8	10	0	18	5	33	0	38	37	3	0	40	96
7:15 AM	0	4	0	4	2	37	0	39	64	0	0	64	107
7:30 AM	0	1	0	1	5	37	0	42	68	1	0	69	112
7:45 AM	1	4	0	5	0	48	0	48	51	1	0	52	105
Total	9	19	0	28	12	155	0	167	220	5	0	225	420
8:00 AM	6	7	0	13	3	32	0	35	56	2	0	58	106
8:15 AM	3	1	0	4	0	42	0	42	50	1	0	51	97
8:30 AM	1	4	0	5	2	30	0	32	52	4	0	56	93
8:45 AM	1	1	0	2	2	45	0	47	62	3	0	65	114
Total	11	13	0	24	7	149	0	156	220	10	0	230	410
Grand Total	20	32	0	52	19	304	0	323	440	15	0	455	830
Approach %	38.5	61.5	0.0		5.9	94.1	0.0		96.7	3.3	0.0		
Total %	2.4	3.9	0.0	6.3	2.3	36.6	0.0	38.9	53.0	1.8	0.0	54.8	
Exiting Leg Total	34				472				324				830
Cars	19	30	0	49	18	279	0	297	419	15	0	434	780
% Cars	95.0	93.8	0.0	94.2	94.7	91.8	0.0	92.0	95.2	100.0	0.0	95.4	94.0
Exiting Leg Total	33				449				298				780
Heavy Vehicles	1	2	0	3	1	25	0	26	21	0	0	21	50
% Heavy Vehicles	5.0	6.3	0.0	5.8	5.3	8.2	0.0	8.0	4.8	0.0	0.0	4.6	6.0
Exiting Leg Total	1				23				26				50

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:15 AM	Sunnyside Avenue				Broadway				Broadway				
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	
7:15 AM	0	4	0	4	2	37	0	39	64	0	0	64	107
7:30 AM	0	1	0	1	5	37	0	42	68	1	0	69	112
7:45 AM	1	4	0	5	0	48	0	48	51	1	0	52	105
8:00 AM	6	7	0	13	3	32	0	35	56	2	0	58	106
Total Volume	7	16	0	23	10	154	0	164	239	4	0	243	430
% Approach Total	30.4	69.6	0.0		6.1	93.9	0.0		98.4	1.6	0.0		
PHF	0.292	0.571	0.000	0.442	0.500	0.802	0.000	0.854	0.879	0.500	0.000	0.880	0.960
Cars	7	15	0	22	10	144	0	154	230	4	0	234	410
Cars %	100.0	93.8	0.0	95.7	100.0	93.5	0.0	93.9	96.2	100.0	0.0	96.3	95.3
Heavy Vehicles	0	1	0	1	0	10	0	10	9	0	0	9	20
Heavy Vehicles %	0.0	6.3	0.0	4.3	0.0	6.5	0.0	6.1	3.8	0.0	0.0	3.7	4.7
Cars Enter Leg	7	15	0	22	10	144	0	154	230	4	0	234	410
Heavy Enter Leg	0	1	0	1	0	10	0	10	9	0	0	9	20
Total Entering Leg	7	16	0	23	10	154	0	164	239	4	0	243	430
Cars Exiting Leg				14				245				151	410
Heavy Exiting Leg				0				10				10	20
Total Exiting Leg				14				255				161	430

PDI File #: **207732 B**
 Location: **N: Sunnyside Avenue**
 Location: **E: Broadway W: Broadway**
 City, State: **Arlington, MA**
 Client: **Nitsh/ B. Zimolka**
 Site Code: **TBA**

Count Date: **Thursday, December 3, 2020**

Start Time: **7:00 AM**

End Time: **9:00 AM**

Class:



46 Morton Street, Framingham, MA 01702
 Office: 508-875-0100 Fax: 508-875-0118
 Email: datarequests@pdilic.com

Cars

	Sunnyside Avenue					Broadway					Broadway					Total
	from North					from East					from West					
	Right	Left	U-Turn	Total		Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total			
7:00 AM	7	10	0	17	4	30	0	34	34	3	0	37	88			
7:15 AM	0	3	0	3	2	34	0	36	60	0	0	60	99			
7:30 AM	0	1	0	1	5	35	0	40	66	1	0	67	108			
7:45 AM	1	4	0	5	0	44	0	44	49	1	0	50	99			
Total	8	18	0	26	11	143	0	154	209	5	0	214	394			
8:00 AM	6	7	0	13	3	31	0	34	55	2	0	57	104			
8:15 AM	3	1	0	4	0	37	0	37	48	1	0	49	90			
8:30 AM	1	3	0	4	2	25	0	27	47	4	0	51	82			
8:45 AM	1	1	0	2	2	43	0	45	60	3	0	63	110			
Total	11	12	0	23	7	136	0	143	210	10	0	220	386			
Grand Total	19	30	0	49	18	279	0	297	419	15	0	434	780			
Approach %	38.8	61.2	0.0		6.1	93.9	0.0		96.5	3.5	0.0					
Total %	2.4	3.8	0.0	6.3	2.3	35.8	0.0	38.1	53.7	1.9	0.0	55.6				
Exiting Leg Total	33				449				298				780			

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:15 AM	Sunnyside Avenue				Broadway				Broadway				Total
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	
7:15 AM	0	3	0	3	2	34	0	36	60	0	0	60	99
7:30 AM	0	1	0	1	5	35	0	40	66	1	0	67	108
7:45 AM	1	4	0	5	0	44	0	44	49	1	0	50	99
8:00 AM	6	7	0	13	3	31	0	34	55	2	0	57	104
Total Volume	7	15	0	22	10	144	0	154	230	4	0	234	410
% Approach Total	31.8	68.2	0.0		6.5	93.5	0.0		98.3	1.7	0.0		
PHF	0.292	0.536	0.000	0.423	0.500	0.818	0.000	0.875	0.871	0.500	0.000	0.873	0.949
Entering Leg	7	15	0	22	10	144	0	154	230	4	0	234	410
Exiting Leg				14				245				151	410
Total				36				399				385	820

PDI File #: **207732 B**
 Location: **N: Sunnyside Avenue**
 Location: **E: Broadway W: Broadway**
 City, State: **Arlington, MA**
 Client: **Nitsh/ B. Zimolka**
 Site Code: **TBA**

Count Date: **Thursday, December 3, 2020**
 Start Time: **7:00 AM**
 End Time: **9:00 AM**



Class: **Heavy Vehicles-Combined (Buses, Single-Unit Trucks, Articulated Trucks)**

	Sunnyside Avenue				Broadway				Broadway				Total
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	
7:00 AM	1	0	0	1	1	3	0	4	3	0	0	3	8
7:15 AM	0	1	0	1	0	3	0	3	4	0	0	4	8
7:30 AM	0	0	0	0	0	2	0	2	2	0	0	2	4
7:45 AM	0	0	0	0	0	4	0	4	2	0	0	2	6
Total	1	1	0	2	1	12	0	13	11	0	0	11	26
8:00 AM	0	0	0	0	0	1	0	1	1	0	0	1	2
8:15 AM	0	0	0	0	0	5	0	5	2	0	0	2	7
8:30 AM	0	1	0	1	0	5	0	5	5	0	0	5	11
8:45 AM	0	0	0	0	0	2	0	2	2	0	0	2	4
Total	0	1	0	1	0	13	0	13	10	0	0	10	24
Grand Total	1	2	0	3	1	25	0	26	21	0	0	21	50
Approach %	33.3	66.7	0.0		3.8	96.2	0.0		100.0	0.0	0.0		
Total %	2.0	4.0	0.0	6.0	2.0	50.0	0.0	52.0	42.0	0.0	0.0	42.0	
Exiting Leg Total	1				23				26				50
Buses	0	0	0	0	0	10	0	10	12	0	0	12	22
% Buses	0.0	0.0	0.0	0.0	0.0	40.0	0.0	38.5	57.1	0.0	0.0	57.1	44.0
Exiting Leg Total	0				12				10				22
Single-Unit Trucks	0	2	0	2	1	14	0	15	6	0	0	6	23
% Single-Unit	0.0	100.0	0.0	66.7	100.0	56.0	0.0	57.7	28.6	0.0	0.0	28.6	46.0
Exiting Leg Total	1				8				14				23
Articulated Trucks	1	0	0	1	0	1	0	1	3	0	0	3	5
% Articulated	100.0	0.0	0.0	33.3	0.0	4.0	0.0	3.8	14.3	0.0	0.0	14.3	10.0
Exiting Leg Total	0				3				2				5

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:00 AM	Sunnyside Avenue				Broadway				Broadway				Total
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	
7:00 AM	1	0	0	1	1	3	0	4	3	0	0	3	8
7:15 AM	0	1	0	1	0	3	0	3	4	0	0	4	8
7:30 AM	0	0	0	0	0	2	0	2	2	0	0	2	4
7:45 AM	0	0	0	0	0	4	0	4	2	0	0	2	6
Total Volume	1	1	0	2	1	12	0	13	11	0	0	11	26
% Approach Total	50.0	50.0	0.0		7.7	92.3	0.0		100.0	0.0	0.0		
PHF	0.250	0.250	0.000	0.500	0.250	0.750	0.000	0.813	0.688	0.000	0.000	0.688	0.813
Buses	0	0	0	0	0	6	0	6	4	0	0	4	10
Buses %	0.0	0.0	0.0	0.0	0.0	50.0	0.0	46.2	36.4	0.0	0.0	36.4	38.5
Single-Unit Trucks	0	1	0	1	1	6	0	7	4	0	0	4	12
Single-Unit %	0.0	100.0	0.0	50.0	100.0	50.0	0.0	53.8	36.4	0.0	0.0	36.4	46.2
Articulated Trucks	1	0	0	1	0	0	0	0	3	0	0	3	4
Articulated %	100.0	0.0	0.0	50.0	0.0	0.0	0.0	0.0	27.3	0.0	0.0	27.3	15.4
Buses	0	0	0	0	0	6	0	6	4	0	0	4	10
Single-Unit Trucks	0	1	0	1	1	6	0	7	4	0	0	4	12
Articulated Trucks	1	0	0	1	0	0	0	0	3	0	0	3	4
Total Entering Leg	1	1	0	2	1	12	0	13	11	0	0	11	26
Buses				0				4				6	10
Single-Unit Trucks				1				5				6	12
Articulated Trucks				0				3				1	4
Total Exiting Leg				1				12				13	26

PDI File #: **207732 B**
 Location: **N: Sunnyside Avenue**
 Location: **E: Broadway W: Broadway**
 City, State: **Arlington, MA**
 Client: **Nitsh/ B. Zimolka**
 Site Code: **TBA**

Count Date: **Thursday, December 3, 2020**
 Start Time: **7:00 AM**
 End Time: **9:00 AM**



Class:

Buses

	Sunnyside Avenue				Broadway				Broadway				Total
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	
7:00 AM	0	0	0	0	0	3	0	3	1	0	0	1	4
7:15 AM	0	0	0	0	0	1	0	1	1	0	0	1	2
7:30 AM	0	0	0	0	0	1	0	1	1	0	0	1	2
7:45 AM	0	0	0	0	0	1	0	1	1	0	0	1	2
Total	0	0	0	0	0	6	0	6	4	0	0	4	10
8:00 AM	0	0	0	0	0	1	0	1	0	0	0	0	1
8:15 AM	0	0	0	0	0	1	0	1	2	0	0	2	3
8:30 AM	0	0	0	0	0	1	0	1	4	0	0	4	5
8:45 AM	0	0	0	0	0	1	0	1	2	0	0	2	3
Total	0	0	0	0	0	4	0	4	8	0	0	8	12
Grand Total	0	0	0	0	0	10	0	10	12	0	0	12	22
Approach %	0.0	0.0	0.0		0.0	100.0	0.0		100.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	45.5	0.0	45.5	54.5	0.0	0.0	54.5	
Exiting Leg Total	0				12				10				22

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

8:00 AM	Sunnyside Avenue				Broadway				Broadway				Total
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	
8:00 AM	0	0	0	0	0	1	0	1	0	0	0	0	1
8:15 AM	0	0	0	0	0	1	0	1	2	0	0	2	3
8:30 AM	0	0	0	0	0	1	0	1	4	0	0	4	5
8:45 AM	0	0	0	0	0	1	0	1	2	0	0	2	3
Total Volume	0	0	0	0	0	4	0	4	8	0	0	8	12
% Approach Total	0.0	0.0	0.0		0.0	100.0	0.0		100.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	1.000	0.000	1.000	0.500	0.000	0.000	0.500	0.600
Entering Leg	0	0	0	0	0	4	0	4	8	0	0	8	12
Exiting Leg				0				8				4	12
Total				0				12				12	24

PDI File #: **207732 B**
 Location: **N: Sunnyside Avenue**
 Location: **E: Broadway W: Broadway**
 City, State: **Arlington, MA**
 Client: **Nitsh/ B. Zimolka**
 Site Code: **TBA**

Count Date: **Thursday, December 3, 2020**

Start Time: **7:00 AM**

End Time: **9:00 AM**

Class:



46 Morton Street, Framingham, MA 01702
 Office: 508-875-0100 Fax: 508-875-0118
 Email: datarequests@pdilic.com

Single-Unit Trucks

	Sunnyside Avenue					Broadway				Broadway				Total
	from North					from East				from West				
	Right	Left	U-Turn	Total		Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	
7:00 AM	0	0	0	0	0	1	0	0	1	2	0	0	2	3
7:15 AM	0	1	0	1		0	2	0	2	1	0	0	1	4
7:30 AM	0	0	0	0		0	1	0	1	0	0	0	0	1
7:45 AM	0	0	0	0		0	3	0	3	1	0	0	1	4
Total	0	1	0	1		1	6	0	7	4	0	0	4	12
8:00 AM	0	0	0	0		0	0	0	0	1	0	0	1	1
8:15 AM	0	0	0	0		0	3	0	3	0	0	0	0	3
8:30 AM	0	1	0	1		0	4	0	4	1	0	0	1	6
8:45 AM	0	0	0	0		0	1	0	1	0	0	0	0	1
Total	0	1	0	1		0	8	0	8	2	0	0	2	11
Grand Total	0	2	0	2		1	14	0	15	6	0	0	6	23
Approach %	0.0	100.0	0.0			6.7	93.3	0.0		100.0	0.0	0.0		
Total %	0.0	8.7	0.0	8.7		4.3	60.9	0.0	65.2	26.1	0.0	0.0	26.1	
Exiting Leg Total	1					8				14				23

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:45 AM	Sunnyside Avenue				Broadway				Broadway				Total
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	
7:45 AM	0	0	0	0	0	3	0	3	1	0	0	1	4
8:00 AM	0	0	0	0	0	0	0	0	1	0	0	1	1
8:15 AM	0	0	0	0	0	3	0	3	0	0	0	0	3
8:30 AM	0	1	0	1	0	4	0	4	1	0	0	1	6
Total Volume	0	1	0	1	0	10	0	10	3	0	0	3	14
% Approach Total	0.0	100.0	0.0		0.0	100.0	0.0		100.0	0.0	0.0		
PHF	0.000	0.250	0.000	0.250	0.000	0.625	0.000	0.625	0.750	0.000	0.000	0.750	0.583
Entering Leg	0	1	0	1	0	10	0	10	3	0	0	3	14
Exiting Leg				0				4				10	14
Total				1				14				13	28

PDI File #: **207732 B**
 Location: **N: Sunnyside Avenue**
 Location: **E: Broadway W: Broadway**
 City, State: **Arlington, MA**
 Client: **Nitsh/ B. Zimolka**
 Site Code: **TBA**

Count Date: **Thursday, December 3, 2020**
 Start Time: **7:00 AM**
 End Time: **9:00 AM**



Class:

Articulated Trucks

	Sunnyside Avenue				Broadway				Broadway				Total	
	from North				from East				from West					
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total		
7:00 AM	1	0	0	1	0	0	0	0	0	0	0	0	0	1
7:15 AM	0	0	0	0	0	0	0	0	2	0	0	2	2	2
7:30 AM	0	0	0	0	0	0	0	0	1	0	0	1	1	1
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	1	0	0	1	0	0	0	0	3	0	0	3	4	4
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	1	0	1	0	0	0	0	1	1
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	1	0	1	0	0	0	0	1	1
Grand Total	1	0	0	1	0	1	0	1	3	0	0	3	5	5
Approach %	100.0	0.0	0.0		0.0	100.0	0.0		100.0	0.0	0.0			
Total %	20.0	0.0	0.0	20.0	0.0	20.0	0.0	20.0	60.0	0.0	0.0	60.0		
Exiting Leg Total	0				3				2				5	

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:00 AM	Sunnyside Avenue				Broadway				Broadway				Total
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	
7:00 AM	1	0	0	1	0	0	0	0	0	0	0	0	1
7:15 AM	0	0	0	0	0	0	0	0	2	0	0	2	2
7:30 AM	0	0	0	0	0	0	0	0	1	0	0	1	1
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	1	0	0	1	0	0	0	0	3	0	0	3	4
% Approach Total	100.0	0.0	0.0		0.0	0.0	0.0		100.0	0.0	0.0		
PHF	0.250	0.000	0.000	0.250	0.000	0.000	0.000	0.000	0.375	0.000	0.000	0.375	0.500
Entering Leg	1	0	0	1	0	0	0	0	3	0	0	3	4
Exiting Leg				0				3				1	4
Total				1				3				4	8

PDI File #: **207732 B**
 Location: **N: Sunnyside Avenue**
 Location: **E: Broadway W: Broadway**
 City, State: **Arlington, MA**
 Client: **Nitsh/ B. Zimolka**
 Site Code: **TBA**



46 Morton Street, Framingham, MA 01702
 Office: 508-875-0100 Fax: 508-875-0118
 Email: datarequests@pdilic.com

Count Date: **Thursday, December 3, 2020**
 Start Time: **7:00 AM**
 End Time: **9:00 AM**

Class:

Bicycles (on Roadway and Crosswalks)

	Sunnyside Avenue							Broadway							Broadway							Total
	from North							from East							from West							
	Right	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	U-Turn	CW-SB	CW-NB	Total	Thru	Left	U-Turn	CW-NB	CW-SB	Total				
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1		
7:15 AM	1	0	0	0	1	2		0	1	0	1	0	2	0	1	0	0	0	1	5		
7:30 AM	0	0	0	0	0	0		0	1	0	0	0	1	0	0	0	0	0	0	1		
7:45 AM	1	0	0	0	1	2		0	1	0	0	0	1	0	0	0	0	0	0	3		
Total	2	0	0	0	2	4		0	3	0	1	0	4	1	1	0	0	0	2	10		
8:00 AM	0	0	0	1	0	1		0	0	0	0	0	0	2	0	0	0	0	2	3		
8:15 AM	0	0	0	0	1	1		0	1	0	0	0	1	0	0	0	0	0	0	2		
8:30 AM	0	0	0	0	0	0		0	0	0	0	0	0	3	0	0	0	0	3	3		
8:45 AM	0	0	0	0	0	0		0	1	0	0	0	1	0	0	0	0	0	0	1		
Total	0	0	0	1	1	2		0	2	0	0	0	2	5	0	0	0	0	5	9		
Grand Total	2	0	0	1	3	6		0	5	0	1	0	6	6	1	0	0	0	7	19		
Approach %	33.3	0.0	0.0	16.7	50.0			0.0	83.3	0.0	16.7	0.0		85.7	14.3	0.0	0.0	0.0				
Total %	10.5	0.0	0.0	5.3	15.8	31.6		0.0	26.3	0.0	5.3	0.0	31.6	31.6	5.3	0.0	0.0	0.0	36.8			
Exiting Leg Total	5							7							7							19

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:15 AM	Sunnyside Avenue							Broadway							Broadway							Total
	from North							from East							from West							
	Right	Left	U-Turn	CW-EB	CW-WB	Total		Right	Thru	U-Turn	CW-SB	CW-NB	Total	Thru	Left	U-Turn	CW-NB	CW-SB	Total			
7:15 AM	1	0	0	0	1	2		0	1	0	1	0	2	0	1	0	0	0	1	5		
7:30 AM	0	0	0	0	0	0		0	1	0	0	0	1	0	0	0	0	0	0	1		
7:45 AM	1	0	0	0	1	2		0	1	0	0	0	1	0	0	0	0	0	0	3		
8:00 AM	0	0	0	1	0	1		0	0	0	0	0	0	2	0	0	0	0	2	3		
Total Volume	2	0	0	1	2	5		0	3	0	1	0	4	2	1	0	0	0	3	12		
% Approach Total	40.0	0.0	0.0	20.0	40.0			0.0	75.0	0.0	25.0	0.0		66.7	33.3	0.0	0.0	0.0				
PHF	0.500	0.000	0.000	0.250	0.500	0.625		0.000	0.750	0.000	0.250	0.000	0.500	0.250	0.250	0.000	0.000	0.000	0.375	0.600		
Entering Leg	2	0	0	1	2	5		0	3	0	1	0	4	2	1	0	0	0	3	12		
Exiting Leg	4							3							5							12
Total	9							7							8							24

PDI File #: 207732 B
 Location: N: Sunnyside Avenue
 Location: E: Broadway W: Broadway
 City, State: Arlington, MA
 Client: Nitsh/ B. Zimolka
 Site Code: TBA



Count Date: Thursday, December 3, 2020
 Start Time: 7:00 AM
 End Time: 9:00 AM

Pedestrians

	Sunnyside Avenue						Broadway						Broadway						Total
	from North						from East						from West						
	Right	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	U-Turn	CW-SB	CW-NB	Total	Thru	Left	U-Turn	CW-NB	CW-SB	Total	
7:00 AM	0	0	0	1	1	2	0	0	0	0	0	0	0	0	0	0	0	0	2
7:15 AM	0	0	0	3	1	4	0	0	0	0	0	0	0	0	0	0	0	0	4
7:30 AM	0	0	0	3	1	4	0	0	0	1	0	1	0	0	0	0	0	0	5
7:45 AM	0	0	0	2	4	6	0	0	0	0	0	0	0	0	0	1	0	1	7
Total	0	0	0	9	7	16	0	0	0	1	0	1	0	0	0	1	0	1	18
8:00 AM	0	0	0	3	2	5	0	0	0	0	0	0	0	0	0	0	0	0	5
8:15 AM	0	0	0	1	2	3	0	0	0	0	0	0	0	0	0	0	0	0	3
8:30 AM	0	0	0	2	3	5	0	0	0	0	0	0	0	0	0	0	1	1	6
8:45 AM	0	0	0	2	3	5	0	0	0	0	0	0	0	0	0	0	0	0	5
Total	0	0	0	8	10	18	0	0	0	0	0	0	0	0	0	0	1	1	19
Grand Total	0	0	0	17	17	34	0	0	0	1	0	1	0	0	0	1	1	2	37
Approach %	0	0	0	50	50		0	0	0	100	0		0	0	0	50	50		
Total %	0	0	0	45.946	45.946	91.892	0	0	0	2.7027	0	2.7027	0	0	0	2.7027	2.7027	5.4054	
Exiting Leg Total	34						1						2						37

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:15 AM	Sunnyside Avenue						Broadway						Broadway						Total			
	from North						from East						from West									
	Right	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	U-Turn	CW-SB	CW-NB	Total	Thru	Left	U-Turn	CW-NB	CW-SB	Total				
7:15 AM	0	0	0	3	1	4	0	0	0	0	0	0	0	0	0	0	0	0	0	4		
7:30 AM	0	0	0	3	1	4	0	0	0	1	0	1	0	0	0	0	0	0	0	5		
7:45 AM	0	0	0	2	4	6	0	0	0	0	0	0	0	0	0	1	0	1	7			
8:00 AM	0	0	0	3	2	5	0	0	0	0	0	0	0	0	0	0	0	0	5			
Total Volume	0	0	0	11	8	19	0	0	0	1	0	1	0	0	0	1	0	1	21			
% Approach Total	0.0	0.0	0.0	57.9	42.1		0.0	0.0	0.0	100.0	0.0		0.0	0.0	0.0	100.0	0.0					
PHF	0.000	0.000	0.000	0.917	0.500	0.792	0.000	0.000	0.000	0.250	0.000	0.250	0.000	0.000	0.000	0.250	0.000	0.250	0.750			
Entering Leg	0	0	0	11	8	19	0	0	0	1	0	1	0	0	0	1	0	1	21			
Exiting Leg							19							1							1	21
Total	38						2						2						42			

PDI File #: **207732 B**
 Location: **N: Sunnyside Avenue**
 Location: **E: Broadway W: Broadway**
 City, State: **Arlington, MA**
 Client: **Nitsh/ B. Zimolka**
 Site Code: **TBA**
 Count Date: **Thursday, December 3, 2020**
 Start Time: **4:00 PM**
 End Time: **6:00 PM**



Class: **Cars and Heavy Vehicles (Combined)**

	Sunnyside Avenue				Broadway				Broadway				Total
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	
4:00 PM	0	2	0	2	3	49	0	52	67	1	0	68	122
4:15 PM	0	6	0	6	2	52	0	54	80	0	0	80	140
4:30 PM	2	2	0	4	2	45	0	47	88	0	0	88	139
4:45 PM	1	4	0	5	4	61	0	65	72	3	0	75	145
Total	3	14	0	17	11	207	0	218	307	4	0	311	546
5:00 PM	4	2	0	6	3	47	0	50	77	4	0	81	137
5:15 PM	4	2	0	6	5	36	0	41	81	8	0	89	136
5:30 PM	0	3	0	3	1	60	0	61	79	0	0	79	143
5:45 PM	2	3	0	5	3	59	0	62	74	4	0	78	145
Total	10	10	0	20	12	202	0	214	311	16	0	327	561
Grand Total	13	24	0	37	23	409	0	432	618	20	0	638	1107
Approach %	35.1	64.9	0.0		5.3	94.7	0.0		96.9	3.1	0.0		
Total %	1.2	2.2	0.0	3.3	2.1	36.9	0.0	39.0	55.8	1.8	0.0	57.6	
Exiting Leg Total	43				642				422				1107
Cars	12	24	0	36	21	400	0	421	610	19	0	629	1086
% Cars	92.3	100.0	0.0	97.3	91.3	97.8	0.0	97.5	98.7	95.0	0.0	98.6	98.1
Exiting Leg Total	40				634				412				1086
Heavy Vehicles	1	0	0	1	2	9	0	11	8	1	0	9	21
% Heavy Vehicles	7.7	0.0	0.0	2.7	8.7	2.2	0.0	2.5	1.3	5.0	0.0	1.4	1.9
Exiting Leg Total	3				8				10				21

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:15 PM	Sunnyside Avenue				Broadway				Broadway				Total
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	
4:15 PM	0	6	0	6	2	52	0	54	80	0	0	80	140
4:30 PM	2	2	0	4	2	45	0	47	88	0	0	88	139
4:45 PM	1	4	0	5	4	61	0	65	72	3	0	75	145
5:00 PM	4	2	0	6	3	47	0	50	77	4	0	81	137
Total Volume	7	14	0	21	11	205	0	216	317	7	0	324	561
% Approach Total	33.3	66.7	0.0		5.1	94.9	0.0		97.8	2.2	0.0		
PHF	0.438	0.583	0.000	0.875	0.688	0.840	0.000	0.831	0.901	0.438	0.000	0.920	0.967
Cars	6	14	0	20	10	202	0	212	312	6	0	318	550
Cars %	85.7	100.0	0.0	95.2	90.9	98.5	0.0	98.1	98.4	85.7	0.0	98.1	98.0
Heavy Vehicles	1	0	0	1	1	3	0	4	5	1	0	6	11
Heavy Vehicles %	14.3	0.0	0.0	4.8	9.1	1.5	0.0	1.9	1.6	14.3	0.0	1.9	2.0
Cars Enter Leg	6	14	0	20	10	202	0	212	312	6	0	318	550
Heavy Enter Leg	1	0	0	1	1	3	0	4	5	1	0	6	11
Total Entering Leg	7	14	0	21	11	205	0	216	317	7	0	324	561
Cars Exiting Leg				16				326				208	550
Heavy Exiting Leg				2				5				4	11
Total Exiting Leg				18				331				212	561

PDI File #: **207732 B**
 Location: **N: Sunnyside Avenue**
 Location: **E: Broadway W: Broadway**
 City, State: **Arlington, MA**
 Client: **Nitsh/ B. Zimolka**
 Site Code: **TBA**

Count Date: **Thursday, December 3, 2020**
 Start Time: **4:00 PM**
 End Time: **6:00 PM**



Class:

Cars

	Sunnyside Avenue				Broadway				Broadway				Total
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	
4:00 PM	0	2	0	2	2	46	0	48	66	1	0	67	117
4:15 PM	0	6	0	6	2	52	0	54	78	0	0	78	138
4:30 PM	1	2	0	3	1	44	0	45	87	0	0	87	135
4:45 PM	1	4	0	5	4	60	0	64	71	2	0	73	142
Total	2	14	0	16	9	202	0	211	302	3	0	305	532
5:00 PM	4	2	0	6	3	46	0	49	76	4	0	80	135
5:15 PM	4	2	0	6	5	36	0	41	80	8	0	88	135
5:30 PM	0	3	0	3	1	58	0	59	78	0	0	78	140
5:45 PM	2	3	0	5	3	58	0	61	74	4	0	78	144
Total	10	10	0	20	12	198	0	210	308	16	0	324	554
Grand Total	12	24	0	36	21	400	0	421	610	19	0	629	1086
Approach %	33.3	66.7	0.0		5.0	95.0	0.0		97.0	3.0	0.0		
Total %	1.1	2.2	0.0	3.3	1.9	36.8	0.0	38.8	56.2	1.7	0.0	57.9	
Exiting Leg Total				40				634				412	1086

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

5:00 PM	Sunnyside Avenue				Broadway				Broadway				Total
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	
5:00 PM	4	2	0	6	3	46	0	49	76	4	0	80	135
5:15 PM	4	2	0	6	5	36	0	41	80	8	0	88	135
5:30 PM	0	3	0	3	1	58	0	59	78	0	0	78	140
5:45 PM	2	3	0	5	3	58	0	61	74	4	0	78	144
Total Volume	10	10	0	20	12	198	0	210	308	16	0	324	554
% Approach Total	50.0	50.0	0.0		5.7	94.3	0.0		95.1	4.9	0.0		
PHF	0.625	0.833	0.000	0.833	0.600	0.853	0.000	0.861	0.963	0.500	0.000	0.920	0.962
Entering Leg	10	10	0	20	12	198	0	210	308	16	0	324	554
Exiting Leg				28				318				208	554
Total				48				528				532	1108

PDI File #: **207732 B**
 Location: **N: Sunnyside Avenue**
 Location: **E: Broadway W: Broadway**
 City, State: **Arlington, MA**
 Client: **Nitsh/ B. Zimolka**
 Site Code: **TBA**

Count Date: **Thursday, December 3, 2020**
 Start Time: **4:00 PM**
 End Time: **6:00 PM**



Class: **Heavy Vehicles-Combined (Buses, Single-Unit Trucks, Articulated Trucks)**

	Sunnyside Avenue				Broadway				Broadway				Total
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	
4:00 PM	0	0	0	0	1	3	0	4	1	0	0	1	5
4:15 PM	0	0	0	0	0	0	0	0	2	0	0	2	2
4:30 PM	1	0	0	1	1	1	0	2	1	0	0	1	4
4:45 PM	0	0	0	0	0	1	0	1	1	1	0	2	3
Total	1	0	0	1	2	5	0	7	5	1	0	6	14
5:00 PM	0	0	0	0	0	1	0	1	1	0	0	1	2
5:15 PM	0	0	0	0	0	0	0	0	1	0	0	1	1
5:30 PM	0	0	0	0	0	2	0	2	1	0	0	1	3
5:45 PM	0	0	0	0	0	1	0	1	0	0	0	0	1
Total	0	0	0	0	0	4	0	4	3	0	0	3	7
Grand Total	1	0	0	1	2	9	0	11	8	1	0	9	21
Approach %	100.0	0.0	0.0		18.2	81.8	0.0		88.9	11.1	0.0		
Total %	4.8	0.0	0.0	4.8	9.5	42.9	0.0	52.4	38.1	4.8	0.0	42.9	
Exiting Leg Total	3				8				10				21
Buses	0	0	0	0	0	8	0	8	6	0	0	6	14
% Buses	0.0	0.0	0.0	0.0	0.0	88.9	0.0	72.7	75.0	0.0	0.0	66.7	66.7
Exiting Leg Total	0				6				8				14
Single-Unit Trucks	1	0	0	1	1	1	0	2	1	1	0	2	5
% Single-Unit	100.0	0.0	0.0	100.0	50.0	11.1	0.0	18.2	12.5	100.0	0.0	22.2	23.8
Exiting Leg Total	2				1				2				5
Articulated Trucks	0	0	0	0	1	0	0	1	1	0	0	1	2
% Articulated	0.0	0.0	0.0	0.0	50.0	0.0	0.0	9.1	12.5	0.0	0.0	11.1	9.5
Exiting Leg Total	1				1				0				2

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Sunnyside Avenue				Broadway				Broadway				Total
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	
4:00 PM	0	0	0	0	1	3	0	4	1	0	0	1	5
4:15 PM	0	0	0	0	0	0	0	0	2	0	0	2	2
4:30 PM	1	0	0	1	1	1	0	2	1	0	0	1	4
4:45 PM	0	0	0	0	0	1	0	1	1	1	0	2	3
Total Volume	1	0	0	1	2	5	0	7	5	1	0	6	14
% Approach Total	100.0	0.0	0.0		28.6	71.4	0.0		83.3	16.7	0.0		
PHF	0.250	0.000	0.000	0.250	0.500	0.417	0.000	0.438	0.625	0.250	0.000	0.750	0.700
Buses	0	0	0	0	0	5	0	5	3	0	0	3	8
Buses %	0.0	0.0	0.0	0.0	0.0	100.0	0.0	71.4	60.0	0.0	0.0	50.0	57.1
Single-Unit Trucks	1	0	0	1	1	0	0	1	1	1	0	2	4
Single-Unit %	100.0	0.0	0.0	100.0	50.0	0.0	0.0	14.3	20.0	100.0	0.0	33.3	28.6
Articulated Trucks	0	0	0	0	1	0	0	1	1	0	0	1	2
Articulated %	0.0	0.0	0.0	0.0	50.0	0.0	0.0	14.3	20.0	0.0	0.0	16.7	14.3
Buses	0	0	0	0	0	5	0	5	3	0	0	3	8
Single-Unit Trucks	1	0	0	1	1	0	0	1	1	1	0	2	4
Articulated Trucks	0	0	0	0	1	0	0	1	1	0	0	1	2
Total Entering Leg	1	0	0	1	2	5	0	7	5	1	0	6	14
Buses				0				3				5	8
Single-Unit Trucks				2				1				1	4
Articulated Trucks				1				1				0	2
Total Exiting Leg				3				5				6	14

PDI File #: **207732 B**
 Location: **N: Sunnyside Avenue**
 Location: **E: Broadway W: Broadway**
 City, State: **Arlington, MA**
 Client: **Nitsh/ B. Zimolka**
 Site Code: **TBA**

Count Date: **Thursday, December 3, 2020**

Start Time: **4:00 PM**

End Time: **6:00 PM**

Class:



46 Morton Street, Framingham, MA 01702
 Office: 508-875-0100 Fax: 508-875-0118
 Email: datarequests@pdilic.com

Buses

	Sunnyside Avenue					Broadway				Broadway				Total
	from North					from East				from West				
	Right	Left	U-Turn	Total		Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	
4:00 PM	0	0	0	0	0	0	3	0	3	1	0	0	1	4
4:15 PM	0	0	0	0	0	0	0	0	0	1	0	0	1	1
4:30 PM	0	0	0	0	0	0	1	0	1	1	0	0	1	2
4:45 PM	0	0	0	0	0	0	1	0	1	0	0	0	0	1
Total	0	0	0	0	0	0	5	0	5	3	0	0	3	8
5:00 PM	0	0	0	0	0	0	1	0	1	1	0	0	1	2
5:15 PM	0	0	0	0	0	0	0	0	0	1	0	0	1	1
5:30 PM	0	0	0	0	0	0	1	0	1	1	0	0	1	2
5:45 PM	0	0	0	0	0	0	1	0	1	0	0	0	0	1
Total	0	0	0	0	0	0	3	0	3	3	0	0	3	6
Grand Total	0	0	0	0	0	0	8	0	8	6	0	0	6	14
Approach %	0.0	0.0	0.0			0.0	100.0	0.0		100.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0		0.0	57.1	0.0	57.1	42.9	0.0	0.0	42.9	
Exiting Leg Total	0					6				8				14

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Sunnyside Avenue				Broadway				Broadway				Total
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	
4:00 PM	0	0	0	0	0	3	0	3	1	0	0	1	4
4:15 PM	0	0	0	0	0	0	0	0	1	0	0	1	1
4:30 PM	0	0	0	0	0	1	0	1	1	0	0	1	2
4:45 PM	0	0	0	0	0	1	0	1	0	0	0	0	1
Total Volume	0	0	0	0	0	5	0	5	3	0	0	3	8
% Approach Total	0.0	0.0	0.0		0.0	100.0	0.0		100.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.000	0.417	0.000	0.417	0.750	0.000	0.000	0.750	0.500
Entering Leg	0	0	0	0	0	5	0	5	3	0	0	3	8
Exiting Leg				0				3				5	8
Total				0				8				8	16

PDI File #: **207732 B**
 Location: **N: Sunnyside Avenue**
 Location: **E: Broadway W: Broadway**
 City, State: **Arlington, MA**
 Client: **Nitsh/ B. Zimolka**
 Site Code: **TBA**

Count Date: **Thursday, December 3, 2020**

Start Time: **4:00 PM**

End Time: **6:00 PM**

Class:



46 Morton Street, Framingham, MA 01702
 Office: 508-875-0100 Fax: 508-875-0118
 Email: datarequests@pdilic.com

Single-Unit Trucks

	Sunnyside Avenue				Broadway				Broadway				Total
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	
4:00 PM	0	0	0	0	1	0	0	1	0	0	0	0	1
4:15 PM	0	0	0	0	0	0	0	0	1	0	0	1	1
4:30 PM	1	0	0	1	0	0	0	0	0	0	0	0	1
4:45 PM	0	0	0	0	0	0	0	0	0	1	0	1	1
Total	1	0	0	1	1	0	0	1	1	1	0	2	4
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	1	0	1	0	0	0	0	1
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	1	0	1	0	0	0	0	1
Grand Total	1	0	0	1	1	1	0	2	1	1	0	2	5
Approach %	100.0	0.0	0.0		50.0	50.0	0.0		50.0	50.0	0.0		
Total %	20.0	0.0	0.0	20.0	20.0	20.0	0.0	40.0	20.0	20.0	0.0	40.0	
Exiting Leg Total	2				1				2				5

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Sunnyside Avenue				Broadway				Broadway				Total
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	
4:00 PM	0	0	0	0	1	0	0	1	0	0	0	0	1
4:15 PM	0	0	0	0	0	0	0	0	1	0	0	1	1
4:30 PM	1	0	0	1	0	0	0	0	0	0	0	0	1
4:45 PM	0	0	0	0	0	0	0	0	0	1	0	1	1
Total Volume	1	0	0	1	1	0	0	1	1	1	0	2	4
% Approach Total	100.0	0.0	0.0		100.0	0.0	0.0		50.0	50.0	0.0		
PHF	0.250	0.000	0.000	0.250	0.250	0.000	0.000	0.250	0.250	0.250	0.000	0.500	1.000
Entering Leg	1	0	0	1	1	0	0	1	1	1	0	2	4
Exiting Leg				2				1				1	4
Total				3				2				3	8

PDI File #: **207732 B**
 Location: **N: Sunnyside Avenue**
 Location: **E: Broadway W: Broadway**
 City, State: **Arlington, MA**
 Client: **Nitsh/ B. Zimolka**
 Site Code: **TBA**

Count Date: **Thursday, December 3, 2020**

Start Time: **4:00 PM**

End Time: **6:00 PM**

Class:



46 Morton Street, Framingham, MA 01702
 Office: 508-875-0100 Fax: 508-875-0118
 Email: datarequests@pdilic.com

Articulated Trucks

	Sunnyside Avenue				Broadway				Broadway				Total
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	1	0	0	1	0	0	0	0	1
4:45 PM	0	0	0	0	0	0	0	0	1	0	0	1	1
Total	0	0	0	0	1	0	0	1	1	0	0	1	2
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	1	0	0	1	1	0	0	1	2
Approach %	0.0	0.0	0.0		100.0	0.0	0.0		100.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	50.0	0.0	0.0	50.0	50.0	0.0	0.0	50.0	
Exiting Leg Total	1				1				0				2

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:00 PM	Sunnyside Avenue				Broadway				Broadway				Total
	from North				from East				from West				
	Right	Left	U-Turn	Total	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	1	0	0	1	0	0	0	0	1
4:45 PM	0	0	0	0	0	0	0	0	1	0	0	1	1
Total Volume	0	0	0	0	1	0	0	1	1	0	0	1	2
% Approach Total	0.0	0.0	0.0		100.0	0.0	0.0		100.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.000	0.250	0.000	0.000	0.250	0.250	0.000	0.000	0.250	0.500
Entering Leg	0	0	0	0	1	0	0	1	1	0	0	1	2
Exiting Leg				1				1				0	2
Total				1				2				1	4

PDI File #: 207732 B
 Location: N: Sunnyside Avenue
 Location: E: Broadway W: Broadway
 City, State: Arlington, MA
 Client: Nitsh/ B. Zimolka
 Site Code: TBA



46 Morton Street, Framingham, MA 01702
 Office: 508-875-0100 Fax: 508-875-0118
 Email: datarequests@pdilic.com

Count Date: Thursday, December 3, 2020
 Start Time: 4:00 PM
 End Time: 6:00 PM

Class: Bicycles (on Roadway and Crosswalks)

	Sunnyside Avenue						Broadway						Broadway						Total	
	from North						from East						from West							
	Right	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	U-Turn	CW-SB	CW-NB	Total	Thru	Left	U-Turn	CW-NB	CW-SB	Total		
4:00 PM	0	0	0	0	0	0	0	1	0	0	0	1	2	0	0	0	0	0	2	3
4:15 PM	0	0	0	0	0	0	0	1	0	0	0	1	1	0	0	0	0	0	1	2
4:30 PM	0	0	0	1	1	2	0	1	0	0	0	1	0	0	0	0	0	0	0	3
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	2	2
Total	0	0	0	1	1	2	0	3	0	0	0	3	5	0	0	0	0	0	5	10
5:00 PM	0	0	0	0	0	0	0	2	0	0	0	2	1	0	0	0	0	0	1	3
5:15 PM	0	0	0	0	1	1	0	0	0	1	0	1	1	0	0	0	0	0	1	3
5:30 PM	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	1
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	1	1	0	3	0	1	0	4	2	0	0	0	0	0	2	7
Grand Total	0	0	0	1	2	3	0	6	0	1	0	7	7	0	0	0	0	0	7	17
Approach %	0.0	0.0	0.0	33.3	66.7		0.0	85.7	0.0	14.3	0.0		100.0	0.0	0.0	0.0	0.0			
Total %	0.0	0.0	0.0	5.9	11.8	17.6	0.0	35.3	0.0	5.9	0.0	41.2	41.2	0.0	0.0	0.0	0.0		41.2	
Exiting Leg Total	3						8						6						17	

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:30 PM	Sunnyside Avenue						Broadway						Broadway						Total
	from North						from East						from West						
	Right	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	U-Turn	CW-SB	CW-NB	Total	Thru	Left	U-Turn	CW-NB	CW-SB	Total	
4:30 PM	0	0	0	1	1	2	0	1	0	0	0	1	0	0	0	0	0	0	3
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2	2
5:00 PM	0	0	0	0	0	0	0	2	0	0	0	2	1	0	0	0	0	1	3
5:15 PM	0	0	0	0	1	1	0	0	0	1	0	1	1	0	0	0	0	1	3
Total Volume	0	0	0	1	2	3	0	3	0	1	0	4	4	0	0	0	0	4	11
% Approach Total	0.0	0.0	0.0	33.3	66.7		0.0	75.0	0.0	25.0	0.0		100.0	0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.250	0.500	0.375	0.000	0.375	0.000	0.250	0.000	0.500	0.500	0.000	0.000	0.000	0.000	0.500	0.917
Entering Leg	0	0	0	1	2	3	0	3	0	1	0	4	4	0	0	0	0	4	11
Exiting Leg	3						5						3						11
Total	6						9						7						22

PDI File #: 207732 B
 Location: N: Sunnyside Avenue
 Location: E: Broadway W: Broadway
 City, State: Arlington, MA
 Client: Nitsh/ B. Zimolka
 Site Code: TBA



Count Date: Thursday, December 3, 2020

Start Time: 4:00 PM

End Time: 6:00 PM

Class:

Pedestrians

	Sunnyside Avenue							Broadway							Broadway							Total
	from North							from East							from West							
	Right	Left	U-Turn	CW-EB	CW-WB	Total		Right	Thru	U-Turn	CW-SB	CW-NB	Total		Thru	Left	U-Turn	CW-NB	CW-SB	Total		
4:00 PM	0	0	0	4	3	7		0	0	0	0	0	0		0	0	0	0	0	0		7
4:15 PM	0	0	0	4	1	5		0	0	0	0	0	0		0	0	0	0	0	0		5
4:30 PM	0	0	0	2	1	3		0	0	0	0	0	0		0	0	0	0	0	0		3
4:45 PM	0	0	0	3	2	5		0	0	0	0	0	0		0	0	0	0	0	0		5
Total	0	0	0	13	7	20		0	0	0	0	0	0		0	0	0	0	0	0		20
5:00 PM	0	0	0	3	1	4		0	0	0	0	1	1		0	0	0	0	0	0		5
5:15 PM	0	0	0	6	5	11		0	0	0	0	0	0		0	0	0	0	0	0		11
5:30 PM	0	0	0	0	1	1		0	0	0	0	0	0		0	0	0	0	0	0		1
5:45 PM	0	0	0	1	6	7		0	0	0	0	0	0		0	0	0	0	0	0		7
Total	0	0	0	10	13	23		0	0	0	0	1	1		0	0	0	0	0	0		24
Grand Total	0	0	0	23	20	43		0	0	0	0	1	1		0	0	0	0	0	0		44
Approach %	0	0	0	53.488	46.512			0	0	0	0	100			0	0	0	0	0			
Total %	0	0	0	52.273	45.455	97.727		0	0	0	0	2.2727	2.2727		0	0	0	0	0	0		
Exiting Leg Total	43							1							0							44

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

4:30 PM	Sunnyside Avenue						Broadway						Broadway							
	from North						from East						from West							
	Right	Left	U-Turn	CW-EB	CW-WB	Total	Right	Thru	U-Turn	CW-SB	CW-NB	Total	Thru	Left	U-Turn	CW-NB	CW-SB	Total		
4:30 PM	0	0	0	2	1	3	0	0	0	0	0	0	0	0	0	0	0	0	0	3
4:45 PM	0	0	0	3	2	5	0	0	0	0	0	0	0	0	0	0	0	0	0	5
5:00 PM	0	0	0	3	1	4	0	0	0	0	0	1	1	0	0	0	0	0	0	5
5:15 PM	0	0	0	6	5	11	0	0	0	0	0	0	0	0	0	0	0	0	0	11
Total Volume	0	0	0	14	9	23	0	0	0	0	1	1	1	0	0	0	0	0	0	24
% Approach Total	0.0	0.0	0.0	60.9	39.1		0.0	0.0	0.0	0.0	100.0			0.0	0.0	0.0	0.0	0.0		
PHF	0.000	0.000	0.000	0.583	0.450	0.523	0.000	0.000	0.000	0.000	0.250	0.250		0.000	0.000	0.000	0.000	0.000	0.000	0.545
Entering Leg	0	0	0	14	9	23	0	0	0	0	1	1	1	0	0	0	0	0	0	24
Exiting Leg						23						1							0	24
Total						46						2							0	48

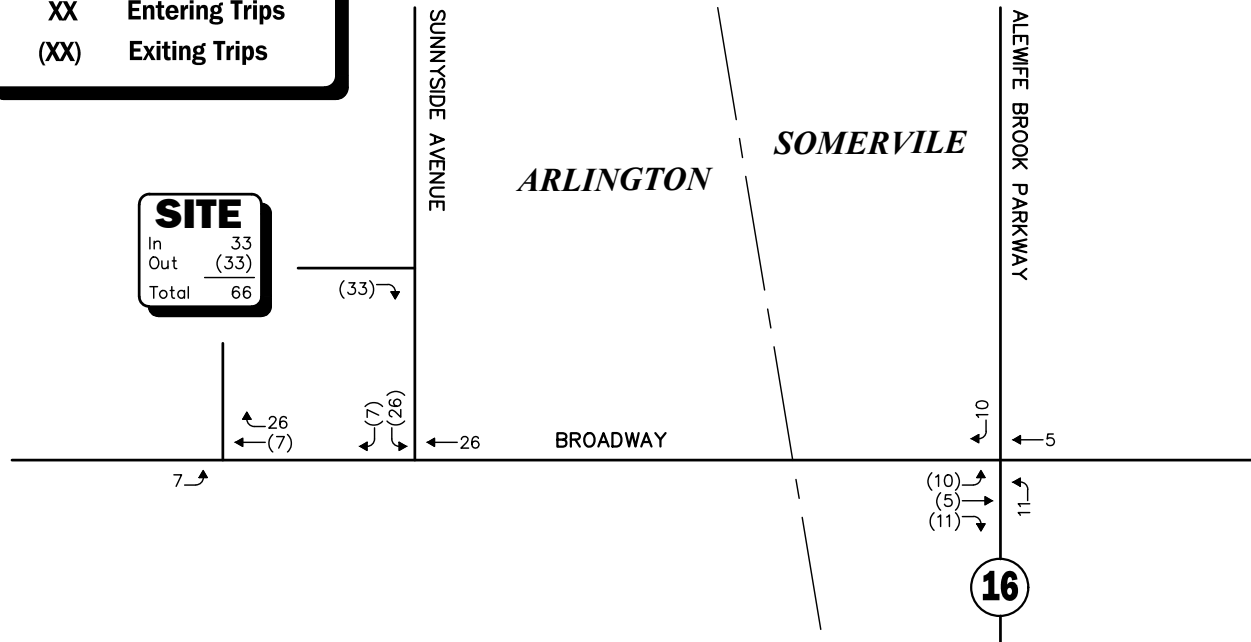


Appendix B: Additional Developments' Trip Generation

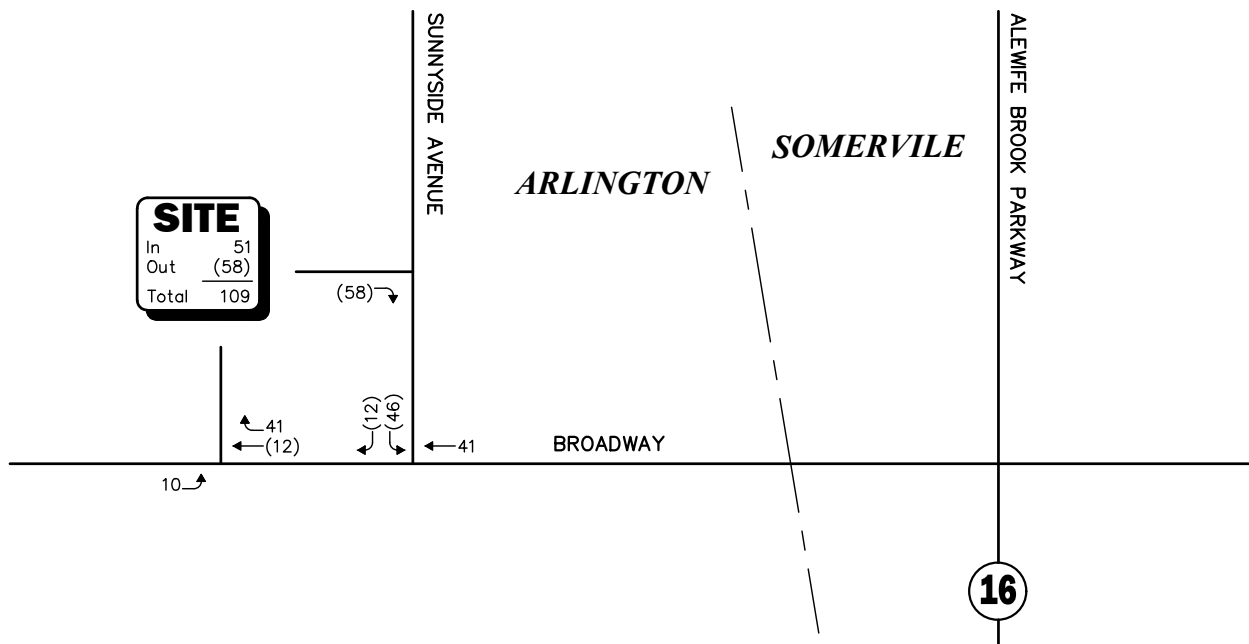
WEEKDAY EVENING PEAK HOUR (4:30 - 5:30 PM)

Legend:

XX Entering Trips
(XX) Exiting Trips



SATURDAY MIDDAY PEAK HOUR (12:00 - 1:00 PM)

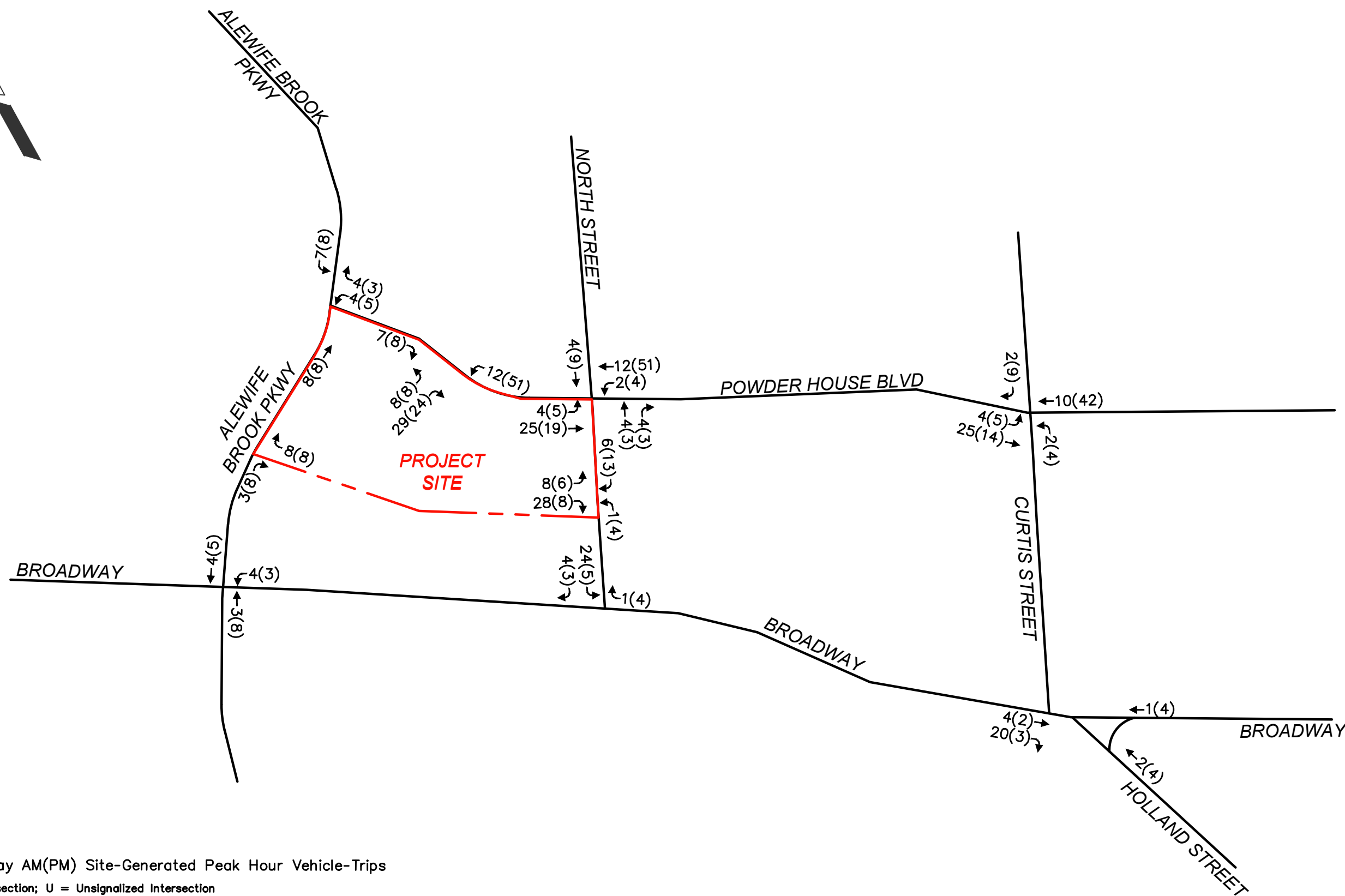
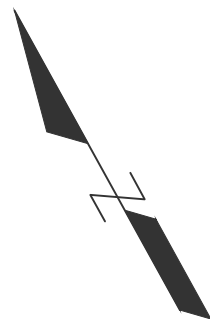


Not To Scale



Figure 6

Project Generated
Peak Hour Traffic Volumes



Legend

XX(YY) → Weekday AM(PM) Site-Generated Peak Hour Vehicle-Trips

S = Signalized Intersection; U = Unsignalized Intersection



DEVELOPER:
REDGATE REAL ESTATE
265 FRANKLIN STREET, 6TH FLOOR
BOSTON, MA 02110

PROJECT TEAM

SITE NAME
34 NORTH STREET
SOMERVILLE, MA
275 or 428

SITE NAME/ADDRESS

Site-Generated Vehicle-Trips

SHEET NAME

Figure D2.2

SHEET #

DR BY: LV/SGS

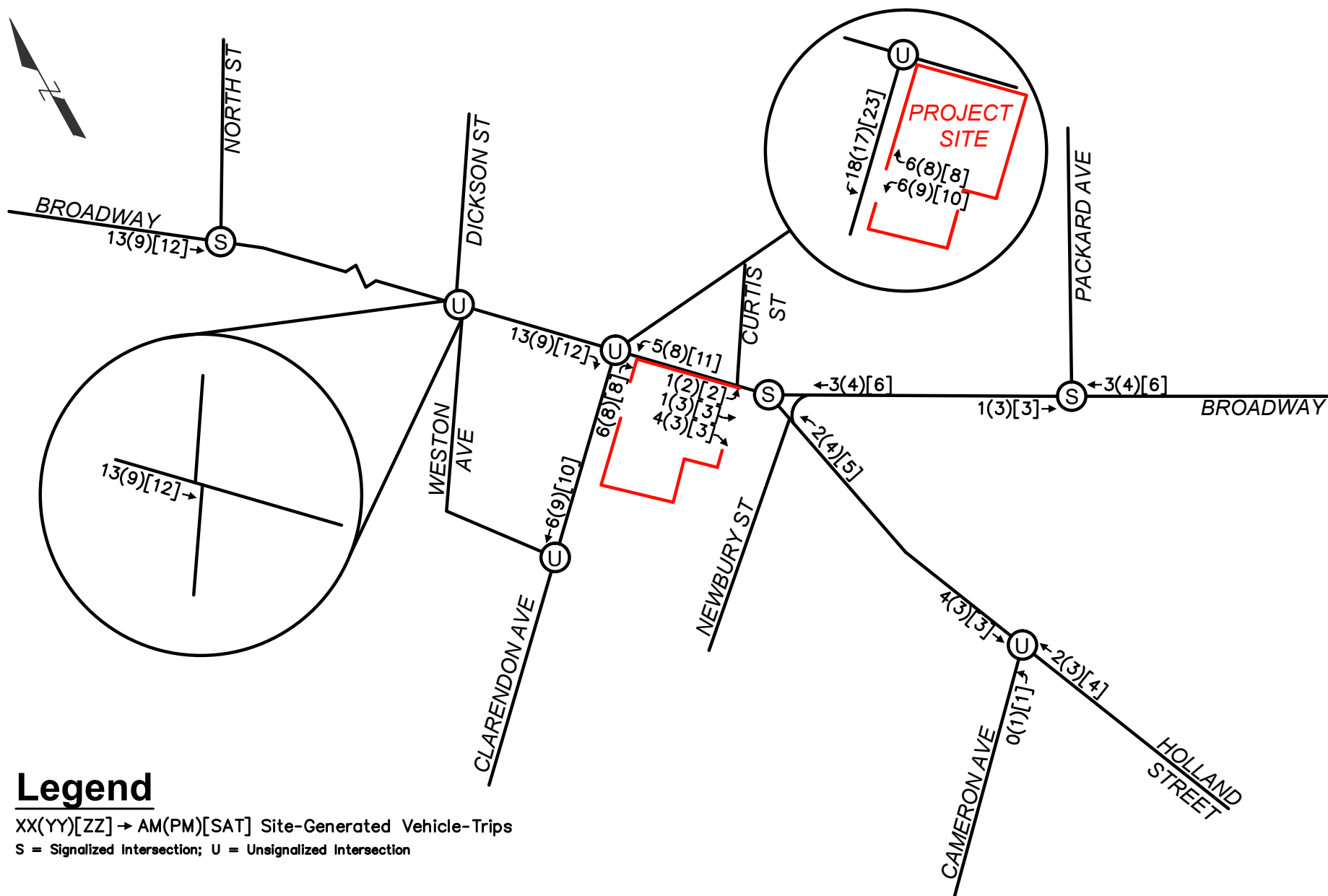
CHK BY: SGS

PROJ NO.: 2016-155

DATE: SEPTEMBER 2019

SCALE: N.T.S.

P:\2016 PROJECTS\2016-155 CLARENDON HILLS 34 NORTH ST SOM\TRAFFIC\CAD\2016-115 TRAFFIC FIGURES-SEPTEMBER 2019 REVISION.DWG



P:\2017 PROJECTS\2017-135_1154_BROADWAY_SOMERVILLE\TRAFFIC\CAD\17-135_TRAFFIC FIGURES_3.DWG



1154 BROADWAY
 SOMERVILLE, MA

Site-Generated
 Trips
 276 of 435

PROJECT NO.: 2017-135

DATE: APRIL 2018

SCALE: N.T.S.

Figure B6



Appendix C: Detailed Trip Generation

Trip Generation from ITE Method by LUC

Period	Direction	Future Trips					
		LUC 220			LUC 710		
		Multifamily Housing (Low-Rise)			General Office Bldg.		
		(5 Units) (vehicle)			(8,000 Sq. ft.) (vehicle)		
		Total Trips	Split	Trips	Total Trips	Split	Trips
AM	Enter	2	0%	0	9	89%	8
	Exit		100%	2		11%	1
PM	Enter	3	67%	2	9	11%	1
	Exit		33%	1		89%	8

Notes:

LUC = Land Use Code

Average rates were used to estimate trip generation.

















Peak-hour trip generation based on peak hours of adjacent street traffic.



Appendix D: Capacity Analysis













Lanes, Volumes, Timings
1: Alewife Brook Pkwy & Broadway

Existing AM Peak






													
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Ø9
Lane Configurations													
Traffic Volume (vph)	163	391	62	188	240	16	29	437	65	45	852	136	
Future Volume (vph)	163	391	62	188	240	16	29	437	65	45	852	136	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	11	11	11	11	11	11	10	10	10	10	10	10	
Grade (%)		0%			0%			1%			1%		
Storage Length (ft)	0		0	0		175	0		0	0		0	
Storage Lanes	0		0	0		1	0		0	0		0	
Taper Length (ft)	25			25			25			25			
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	
Ped Bike Factor		0.99			1.00			1.00			1.00		
Frt		0.985			0.995			0.982			0.980		
Flt Protected		0.987			0.979			0.997			0.998		
Satd. Flow (prot)	0	3346	0	0	3343	0	0	3269	0	0	3269	0	
Flt Permitted		0.987			0.979			0.672			0.847		
Satd. Flow (perm)	0	3346	0	0	3343	0	0	2204	0	0	2775	0	
Right Turn on Red			Yes			Yes			Yes			No	
Satd. Flow (RTOR)		8			2			13					
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		344			754			613			765		
Travel Time (s)		7.8			17.1			13.9			17.4		
Confl. Peds. (#/hr)													
Confl. Bikes (#/hr)			32			4			1			2	
Peak Hour Factor	0.93	0.93	0.93	0.92	0.92	0.92	0.89	0.89	0.89	0.92	0.92	0.92	
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	
Heavy Vehicles (%)	1%	1%	0%	0%	3%	0%	0%	0%	2%	0%	0%	0%	
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0	
Parking (#/hr)													
Mid-Block Traffic (%)		0%			0%			0%			0%		
Adj. Flow (vph)	175	420	67	204	261	17	33	491	73	49	926	148	
Shared Lane Traffic (%)													
Lane Group Flow (vph)	0	662	0	0	482	0	0	597	0	0	1123	0	
Turn Type	Split	NA		Split	NA		Perm	NA		Perm	NA		
Protected Phases	4	4		8	8			2			6		9
Permitted Phases							2			6			
Detector Phase	4	4		8	8		2	2		6	6		
Switch Phase													
Minimum Initial (s)	8.0	8.0		12.0	12.0		12.0	12.0		8.0	8.0		1.0
Minimum Split (s)	14.0	14.0		18.0	18.0		18.0	18.0		14.0	14.0		19.0
Total Split (s)	31.0	31.0		26.0	26.0		56.0	56.0		56.0	56.0		19.0
Total Split (%)	23.5%	23.5%		19.7%	19.7%		42.4%	42.4%		42.4%	42.4%		14%
Maximum Green (s)	25.0	25.0		20.0	20.0		50.0	50.0		50.0	50.0		15.0
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0		4.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0		0.0
Lost Time Adjust (s)		0.0			0.0			0.0			0.0		
Total Lost Time (s)		6.0			6.0			6.0			6.0		
Lead/Lag	Lead	Lead		Lag	Lag								
Lead-Lag Optimize?	Yes	Yes		Yes	Yes								
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0		3.0
Minimum Gap (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0		3.0
Time Before Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0		0.0
Time To Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0		0.0
Recall Mode	None	None		None	None		Min	Min		Min	Min		None
Walk Time (s)													7.0
Flash Dont Walk (s)													8.0
Pedestrian Calls (#/hr)													100
Act Effct Green (s)		25.0			20.0			50.0			50.0		
Actuated g/C Ratio		0.19			0.15			0.38			0.38		
v/c Ratio		1.03			0.95			0.71			1.07		
Control Delay		95.8			84.2			39.6			87.4		
Queue Delay		0.0			0.0			0.0			0.0		
Total Delay		95.8			84.2			39.6			87.4		
LOS		F			F			D			F		
Approach Delay		95.8			84.2			39.6			87.4		
Approach LOS		F			F			D			F		
Queue Length 50th (ft)		~317			217			222			~559		

Lanes, Volumes, Timings
1: Alewife Brook Pkwy & Broadway

Existing AM Peak

















													
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Ø9
Queue Length 95th (ft)		#443			#327			290			#696		
Internal Link Dist (ft)		264			674			533			685		
Turn Bay Length (ft)													
Base Capacity (vph)		640			508			842			1051		
Starvation Cap Reductn		0			0			0			0		
Spillback Cap Reductn		0			0			0			0		
Storage Cap Reductn		0			0			0			0		
Reduced v/c Ratio		1.03			0.95			0.71			1.07		
Intersection Summary													
Area Type:	Other												
Cycle Length: 132													
Actuated Cycle Length: 132													
Natural Cycle: 130													
Control Type: Actuated-Uncoordinated													
Maximum v/c Ratio: 1.07													
Intersection Signal Delay: 78.9				Intersection LOS: E									
Intersection Capacity Utilization 94.3%				ICU Level of Service F									
Analysis Period (min) 15													
~ Volume exceeds capacity, queue is theoretically infinite.													
Queue shown is maximum after two cycles.													
# 95th percentile volume exceeds capacity, queue may be longer.													
Queue shown is maximum after two cycles.													

Splits and Phases: 1: Alewife Brook Pkwy & Broadway

 Ø2	 Ø9	 Ø4	 Ø8
56 s	19 s	31 s	26 s
 Ø6			
56 s			













Lanes, Volumes, Timings
1: Alewife Brook Pkwy & Broadway

Existing PM Peak






													
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Ø9
Lane Configurations													
Traffic Volume (vph)	195	305	46	136	280	22	33	783	165	21	848	134	
Future Volume (vph)	195	305	46	136	280	22	33	783	165	21	848	134	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	11	11	11	11	11	11	10	10	10	10	10	10	
Grade (%)		0%			0%			1%			1%		
Storage Length (ft)	0		0	0		175	0		0	0		0	
Storage Lanes	0		0	0		1	0		0	0		0	
Taper Length (ft)	25			25			25			25			
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	
Ped Bike Factor		1.00			1.00			1.00					
Frt		0.987			0.992			0.975			0.980		
Flt Protected		0.982			0.985			0.998			0.999		
Satd. Flow (prot)	0	3359	0	0	3385	0	0	3255	0	0	3282	0	
Flt Permitted		0.982			0.985			0.703			0.804		
Satd. Flow (perm)	0	3359	0	0	3385	0	0	2293	0	0	2641	0	
Right Turn on Red			Yes			Yes			Yes			No	
Satd. Flow (RTOR)		6			3			21					
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		344			754			613			765		
Travel Time (s)		7.8			17.1			13.9			17.4		
Confl. Peds. (#/hr)													
Confl. Bikes (#/hr)			3			3			1				
Peak Hour Factor	0.86	0.86	0.86	0.96	0.96	0.96	0.96	0.96	0.96	0.92	0.92	0.92	
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	
Heavy Vehicles (%)	0%	1%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0	
Parking (#/hr)													
Mid-Block Traffic (%)		0%			0%			0%			0%		
Adj. Flow (vph)	227	355	53	142	292	23	34	816	172	23	922	146	
Shared Lane Traffic (%)													
Lane Group Flow (vph)	0	635	0	0	457	0	0	1022	0	0	1091	0	
Turn Type	Split	NA		Split	NA		Perm	NA		Perm	NA		
Protected Phases	4	4		8	8			2			6		9
Permitted Phases							2			6			
Detector Phase	4	4		8	8		2	2		6	6		
Switch Phase													
Minimum Initial (s)	8.0	8.0		12.0	12.0		12.0	12.0		8.0	8.0		1.0
Minimum Split (s)	14.0	14.0		18.0	18.0		18.0	18.0		14.0	14.0		19.0
Total Split (s)	31.0	31.0		26.0	26.0		56.0	56.0		56.0	56.0		19.0
Total Split (%)	23.5%	23.5%		19.7%	19.7%		42.4%	42.4%		42.4%	42.4%		14%
Maximum Green (s)	25.0	25.0		20.0	20.0		50.0	50.0		50.0	50.0		15.0
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0		4.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0		0.0
Lost Time Adjust (s)		0.0			0.0			0.0			0.0		
Total Lost Time (s)		6.0			6.0			6.0			6.0		
Lead/Lag	Lead	Lead		Lag	Lag								
Lead-Lag Optimize?	Yes	Yes		Yes	Yes								
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0		3.0
Minimum Gap (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0		3.0
Time Before Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0		0.0
Time To Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0		0.0
Recall Mode	None	None		None	None		Min	Min		Min	Min		None
Walk Time (s)													7.0
Flash Dont Walk (s)													8.0
Pedestrian Calls (#/hr)													100
Act Effct Green (s)		25.0			19.5			50.0			50.0		
Actuated g/C Ratio		0.19			0.15			0.38			0.38		
v/c Ratio		0.99			0.91			1.16			1.09		
Control Delay		84.9			77.4			119.5			93.9		
Queue Delay		0.0			0.0			0.0			0.0		
Total Delay		84.9			77.4			119.5			93.9		
LOS		F			E			F			F		
Approach Delay		84.9			77.4			119.5			93.9		
Approach LOS		F			E			F			F		
Queue Length 50th (ft)		286			203			~540			~553		

Lanes, Volumes, Timings
1: Alewife Brook Pkwy & Broadway

Existing PM Peak

















													
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Ø9
Queue Length 95th (ft)		#384			#298			#677			#690		
Internal Link Dist (ft)		264			674			533			685		
Turn Bay Length (ft)													
Base Capacity (vph)		643			517			884			1004		
Starvation Cap Reductn		0			0			0			0		
Spillback Cap Reductn		0			0			0			0		
Storage Cap Reductn		0			0			0			0		
Reduced v/c Ratio		0.99			0.88			1.16			1.09		
Intersection Summary													
Area Type:	Other												
Cycle Length: 132													
Actuated Cycle Length: 131.5													
Natural Cycle: 130													
Control Type: Actuated-Uncoordinated													
Maximum v/c Ratio: 1.16													
Intersection Signal Delay: 97.9				Intersection LOS: F									
Intersection Capacity Utilization 94.4%				ICU Level of Service F									
Analysis Period (min) 15													
~ Volume exceeds capacity, queue is theoretically infinite.													
Queue shown is maximum after two cycles.													
# 95th percentile volume exceeds capacity, queue may be longer.													
Queue shown is maximum after two cycles.													

Splits and Phases: 1: Alewife Brook Pkwy & Broadway

 Ø2	 Ø9	 Ø4	 Ø8
56 s	19 s	31 s	26 s
 Ø6			
56 s			













Lanes, Volumes, Timings
1: Alewife Brook Pkwy & Broadway

No-Build AM Peak





													
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Ø9
Lane Configurations													
Traffic Volume (vph)	187	459	71	220	275	19	33	505	77	53	983	156	
Future Volume (vph)	187	459	71	220	275	19	33	505	77	53	983	156	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	11	11	11	11	11	11	10	10	10	10	10	10	
Grade (%)		0%			0%			1%			1%		
Storage Length (ft)	0		0	0		175	0		0	0		0	
Storage Lanes	0		0	0		1	0		0	0		0	
Taper Length (ft)	25			25			25			25			
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	
Ped Bike Factor		1.00			1.00			1.00			1.00		
Frt		0.985			0.994			0.981			0.980		
Flt Protected		0.987			0.979			0.997			0.998		
Satd. Flow (prot)	0	3346	0	0	3340	0	0	3266	0	0	3269	0	
Flt Permitted		0.987			0.979			0.593			0.780		
Satd. Flow (perm)	0	3346	0	0	3340	0	0	1942	0	0	2555	0	
Right Turn on Red			Yes			Yes			Yes			No	
Satd. Flow (RTOR)		8			2			14					
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		344			754			613			765		
Travel Time (s)		7.8			17.1			13.9			17.4		
Confl. Peds. (#/hr)													
Confl. Bikes (#/hr)			32			4			1			2	
Peak Hour Factor	0.93	0.93	0.93	0.92	0.92	0.92	0.89	0.89	0.89	0.92	0.92	0.92	
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	
Heavy Vehicles (%)	1%	1%	0%	0%	3%	0%	0%	0%	2%	0%	0%	0%	
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0	
Parking (#/hr)													
Mid-Block Traffic (%)		0%			0%			0%			0%		
Adj. Flow (vph)	201	494	76	239	299	21	37	567	87	58	1068	170	
Shared Lane Traffic (%)													
Lane Group Flow (vph)	0	771	0	0	559	0	0	691	0	0	1296	0	
Turn Type	Split	NA		Split	NA		Perm	NA		Perm	NA		
Protected Phases	4	4		8	8			2			6		9
Permitted Phases							2			6			
Detector Phase	4	4		8	8		2	2		6	6		
Switch Phase													
Minimum Initial (s)	8.0	8.0		12.0	12.0		12.0	12.0		8.0	8.0		1.0
Minimum Split (s)	14.0	14.0		18.0	18.0		18.0	18.0		14.0	14.0		19.0
Total Split (s)	31.0	31.0		26.0	26.0		56.0	56.0		56.0	56.0		19.0
Total Split (%)	23.5%	23.5%		19.7%	19.7%		42.4%	42.4%		42.4%	42.4%		14%
Maximum Green (s)	25.0	25.0		20.0	20.0		50.0	50.0		50.0	50.0		15.0
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0		4.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0		0.0
Lost Time Adjust (s)		0.0			0.0			0.0			0.0		
Total Lost Time (s)		6.0			6.0			6.0			6.0		
Lead/Lag	Lead	Lead		Lag	Lag								
Lead-Lag Optimize?	Yes	Yes		Yes	Yes								
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0		3.0
Minimum Gap (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0		3.0
Time Before Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0		0.0
Time To Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0		0.0
Recall Mode	None	None		None	None		Min	Min		Min	Min		None
Walk Time (s)													7.0
Flash Dont Walk (s)													8.0
Pedestrian Calls (#/hr)													100
Act Effct Green (s)		25.0			20.0			50.0			50.0		
Actuated g/C Ratio		0.19			0.15			0.38			0.38		
v/c Ratio		1.20			1.10			0.93			1.34		
Control Delay		151.2			121.7			58.5			194.3		
Queue Delay		0.0			0.0			0.0			0.0		
Total Delay		151.2			121.7			58.5			194.3		
LOS		F			F			E			F		
Approach Delay		151.2			121.7			58.5			194.3		
Approach LOS		F			F			E			F		
Queue Length 50th (ft)		~421			~285			291			~760		

Lanes, Volumes, Timings
1: Alewife Brook Pkwy & Broadway

No-Build AM Peak

















													
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Ø9
Queue Length 95th (ft)		#552			#406			#412			#899		
Internal Link Dist (ft)		264			674			533			685		
Turn Bay Length (ft)													
Base Capacity (vph)		640			507			744			967		
Starvation Cap Reductn		0			0			0			0		
Spillback Cap Reductn		0			0			0			0		
Storage Cap Reductn		0			0			0			0		
Reduced v/c Ratio		1.20			1.10			0.93			1.34		
Intersection Summary													
Area Type:	Other												
Cycle Length: 132													
Actuated Cycle Length: 132													
Natural Cycle: 150													
Control Type: Actuated-Uncoordinated													
Maximum v/c Ratio: 1.34													
Intersection Signal Delay: 143.8	Intersection LOS: F												
Intersection Capacity Utilization 106.0%	ICU Level of Service G												
Analysis Period (min) 15													
~ Volume exceeds capacity, queue is theoretically infinite.	Queue shown is maximum after two cycles.												
# 95th percentile volume exceeds capacity, queue may be longer.	Queue shown is maximum after two cycles.												

Splits and Phases: 1: Alewife Brook Pkwy & Broadway

 Ø2	 Ø9	 Ø4	 Ø8
56 s	19 s	31 s	26 s
 Ø6			
56 s			













Lanes, Volumes, Timings
1: Alewife Brook Pkwy & Broadway

No-Build PM Peak






													
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Ø9
Lane Configurations													
Traffic Volume (vph)	233	361	64	159	327	25	49	908	192	24	979	164	
Future Volume (vph)	233	361	64	159	327	25	49	908	192	24	979	164	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	11	11	11	11	11	11	10	10	10	10	10	10	
Grade (%)		0%			0%			1%			1%		
Storage Length (ft)	0		0	0		175	0		0	0		0	
Storage Lanes	0		0	0		1	0		0	0		0	
Taper Length (ft)	25			25			25			25			
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	
Ped Bike Factor		1.00			1.00			1.00					
Frt		0.985			0.993			0.975			0.979		
Flt Protected		0.983			0.985			0.998			0.999		
Satd. Flow (prot)	0	3355	0	0	3389	0	0	3255	0	0	3279	0	
Flt Permitted		0.983			0.985			0.561			0.703		
Satd. Flow (perm)	0	3355	0	0	3389	0	0	1830	0	0	2307	0	
Right Turn on Red			Yes			Yes			Yes			No	
Satd. Flow (RTOR)		8			3			20					
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		344			754			613			765		
Travel Time (s)		7.8			17.1			13.9			17.4		
Confl. Peds. (#/hr)													
Confl. Bikes (#/hr)			3			3			1				
Peak Hour Factor	0.86	0.86	0.86	0.96	0.96	0.96	0.96	0.96	0.96	0.92	0.92	0.92	
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	
Heavy Vehicles (%)	0%	1%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0	
Parking (#/hr)													
Mid-Block Traffic (%)		0%			0%			0%			0%		
Adj. Flow (vph)	271	420	74	166	341	26	51	946	200	26	1064	178	
Shared Lane Traffic (%)													
Lane Group Flow (vph)	0	765	0	0	533	0	0	1197	0	0	1268	0	
Turn Type	Split	NA		Split	NA		Perm	NA		Perm	NA		
Protected Phases	4	4		8	8			2			6		9
Permitted Phases							2			6			
Detector Phase	4	4		8	8		2	2		6	6		
Switch Phase													
Minimum Initial (s)	8.0	8.0		12.0	12.0		12.0	12.0		8.0	8.0		1.0
Minimum Split (s)	14.0	14.0		18.0	18.0		18.0	18.0		14.0	14.0		19.0
Total Split (s)	31.0	31.0		26.0	26.0		56.0	56.0		56.0	56.0		19.0
Total Split (%)	23.5%	23.5%		19.7%	19.7%		42.4%	42.4%		42.4%	42.4%		14%
Maximum Green (s)	25.0	25.0		20.0	20.0		50.0	50.0		50.0	50.0		15.0
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0		4.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0		0.0
Lost Time Adjust (s)		0.0			0.0			0.0			0.0		
Total Lost Time (s)		6.0			6.0			6.0			6.0		
Lead/Lag	Lead	Lead		Lag	Lag								
Lead-Lag Optimize?	Yes	Yes		Yes	Yes								
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0		3.0
Minimum Gap (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0		3.0
Time Before Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0		0.0
Time To Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0		0.0
Recall Mode	None	None		None	None		Min	Min		Min	Min		None
Walk Time (s)													7.0
Flash Dont Walk (s)													8.0
Pedestrian Calls (#/hr)													100
Act Effct Green (s)		25.0			20.0			50.0			50.0		
Actuated g/C Ratio		0.19			0.15			0.38			0.38		
v/c Ratio		1.19			1.03			1.70			1.45		
Control Delay		147.0			102.1			348.5			242.3		
Queue Delay		0.0			0.0			0.0			0.0		
Total Delay		147.0			102.1			348.5			242.3		
LOS		F			F			F			F		
Approach Delay		147.0			102.1			348.5			242.3		
Approach LOS		F			F			F			F		
Queue Length 50th (ft)		~414			~256			~791			~777		

Lanes, Volumes, Timings
1: Alewife Brook Pkwy & Broadway

No-Build PM Peak

















													
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Ø9
Queue Length 95th (ft)		#507			#375			#932			#917		
Internal Link Dist (ft)		264			674			533			685		
Turn Bay Length (ft)													
Base Capacity (vph)		641			516			705			873		
Starvation Cap Reductn		0			0			0			0		
Spillback Cap Reductn		0			0			0			0		
Storage Cap Reductn		0			0			0			0		
Reduced v/c Ratio		1.19			1.03			1.70			1.45		
Intersection Summary													
Area Type:	Other												
Cycle Length: 132													
Actuated Cycle Length: 132													
Natural Cycle: 150													
Control Type: Actuated-Uncoordinated													
Maximum v/c Ratio: 1.70													
Intersection Signal Delay: 236.9				Intersection LOS: F									
Intersection Capacity Utilization 116.4%				ICU Level of Service H									
Analysis Period (min) 15													
~ Volume exceeds capacity, queue is theoretically infinite.													
Queue shown is maximum after two cycles.													
# 95th percentile volume exceeds capacity, queue may be longer.													
Queue shown is maximum after two cycles.													

Splits and Phases: 1: Alewife Brook Pkwy & Broadway

 Ø2	 Ø9	 Ø4	 Ø8
56 s	19 s	31 s	26 s
 Ø6			
56 s			













Lanes, Volumes, Timings
1: Alewife Brook Pkwy & Broadway

Build AM Peak






													
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Ø9
Lane Configurations													
Traffic Volume (vph)	188	460	71	220	278	19	33	505	77	53	983	158	
Future Volume (vph)	188	460	71	220	278	19	33	505	77	53	983	158	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	11	11	11	11	11	11	10	10	10	10	10	10	
Grade (%)		0%			0%			1%			1%		
Storage Length (ft)	0		0	0		175	0		0	0		0	
Storage Lanes	0		0	0		1	0		0	0		0	
Taper Length (ft)	25			25			25			25			
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	
Ped Bike Factor		1.00			1.00			1.00			1.00		
Frt		0.985			0.994			0.981			0.980		
Flt Protected		0.987			0.979			0.997			0.998		
Satd. Flow (prot)	0	3346	0	0	3340	0	0	3266	0	0	3269	0	
Flt Permitted		0.987			0.979			0.592			0.781		
Satd. Flow (perm)	0	3346	0	0	3340	0	0	1939	0	0	2558	0	
Right Turn on Red			Yes			Yes			Yes			No	
Satd. Flow (RTOR)		8			2			14					
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		344			754			613			765		
Travel Time (s)		7.8			17.1			13.9			17.4		
Confl. Peds. (#/hr)													
Confl. Bikes (#/hr)			32			4			1			2	
Peak Hour Factor	0.93	0.93	0.93	0.92	0.92	0.92	0.89	0.89	0.89	0.92	0.92	0.92	
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	
Heavy Vehicles (%)	1%	1%	0%	0%	3%	0%	0%	0%	2%	0%	0%	0%	
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0	
Parking (#/hr)													
Mid-Block Traffic (%)		0%			0%			0%			0%		
Adj. Flow (vph)	202	495	76	239	302	21	37	567	87	58	1068	172	
Shared Lane Traffic (%)													
Lane Group Flow (vph)	0	773	0	0	562	0	0	691	0	0	1298	0	
Turn Type	Split	NA		Split	NA		Perm	NA		Perm	NA		
Protected Phases	4	4		8	8			2			6		9
Permitted Phases							2			6			
Detector Phase	4	4		8	8		2	2		6	6		
Switch Phase													
Minimum Initial (s)	8.0	8.0		12.0	12.0		12.0	12.0		8.0	8.0		1.0
Minimum Split (s)	14.0	14.0		18.0	18.0		18.0	18.0		14.0	14.0		19.0
Total Split (s)	31.0	31.0		26.0	26.0		56.0	56.0		56.0	56.0		19.0
Total Split (%)	23.5%	23.5%		19.7%	19.7%		42.4%	42.4%		42.4%	42.4%		14%
Maximum Green (s)	25.0	25.0		20.0	20.0		50.0	50.0		50.0	50.0		15.0
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0		4.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0		0.0
Lost Time Adjust (s)		0.0			0.0			0.0			0.0		
Total Lost Time (s)		6.0			6.0			6.0			6.0		
Lead/Lag	Lead	Lead		Lag	Lag								
Lead-Lag Optimize?	Yes	Yes		Yes	Yes								
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0		3.0
Minimum Gap (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0		3.0
Time Before Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0		0.0
Time To Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0		0.0
Recall Mode	None	None		None	None		Min	Min		Min	Min		None
Walk Time (s)													7.0
Flash Dont Walk (s)													8.0
Pedestrian Calls (#/hr)													100
Act Effct Green (s)		25.0			20.0			50.0			50.0		
Actuated g/C Ratio		0.19			0.15			0.38			0.38		
v/c Ratio		1.21			1.11			0.93			1.34		
Control Delay		152.4			123.6			58.7			194.6		
Queue Delay		0.0			0.0			0.0			0.0		
Total Delay		152.4			123.6			58.7			194.6		
LOS		F			F			E			F		
Approach Delay		152.4			123.6			58.7			194.6		
Approach LOS		F			F			E			F		
Queue Length 50th (ft)		~422			~288			291			~761		

Lanes, Volumes, Timings
1: Alewife Brook Pkwy & Broadway

Build AM Peak

















													
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Ø9
Queue Length 95th (ft)		#553			#408			#412			#901		
Internal Link Dist (ft)		264			674			533			685		
Turn Bay Length (ft)													
Base Capacity (vph)		640			507			743			968		
Starvation Cap Reductn		0			0			0			0		
Spillback Cap Reductn		0			0			0			0		
Storage Cap Reductn		0			0			0			0		
Reduced v/c Ratio		1.21			1.11			0.93			1.34		
Intersection Summary													
Area Type:	Other												
Cycle Length: 132													
Actuated Cycle Length: 132													
Natural Cycle: 150													
Control Type: Actuated-Uncoordinated													
Maximum v/c Ratio: 1.34													
Intersection Signal Delay: 144.5				Intersection LOS: F									
Intersection Capacity Utilization 106.2%				ICU Level of Service G									
Analysis Period (min) 15													
~ Volume exceeds capacity, queue is theoretically infinite.													
Queue shown is maximum after two cycles.													
# 95th percentile volume exceeds capacity, queue may be longer.													
Queue shown is maximum after two cycles.													

Splits and Phases: 1: Alewife Brook Pkwy & Broadway

 Ø2	 Ø9	 Ø4	 Ø8
56 s	19 s	31 s	26 s
 Ø6			
56 s			













Lanes, Volumes, Timings
1: Alewife Brook Pkwy & Broadway

Build PM Peak





													
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Ø9
Lane Configurations													
Traffic Volume (vph)	235	365	64	159	328	25	49	908	192	24	979	165	
Future Volume (vph)	235	365	64	159	328	25	49	908	192	24	979	165	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	11	11	11	11	11	11	10	10	10	10	10	10	
Grade (%)		0%			0%			1%			1%		
Storage Length (ft)	0		0	0		175	0		0	0		0	
Storage Lanes	0		0	0		1	0		0	0		0	
Taper Length (ft)	25			25			25			25			
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	
Ped Bike Factor		1.00			1.00			1.00					
Frt		0.986			0.993			0.975			0.979		
Flt Protected		0.983			0.985			0.998			0.999		
Satd. Flow (prot)	0	3359	0	0	3389	0	0	3255	0	0	3279	0	
Flt Permitted		0.983			0.985			0.561			0.703		
Satd. Flow (perm)	0	3359	0	0	3389	0	0	1830	0	0	2307	0	
Right Turn on Red			Yes			Yes			Yes			No	
Satd. Flow (RTOR)		7			3			20					
Link Speed (mph)		30			30			30			30		
Link Distance (ft)		344			754			613			765		
Travel Time (s)		7.8			17.1			13.9			17.4		
Confl. Peds. (#/hr)													
Confl. Bikes (#/hr)			3			3			1				
Peak Hour Factor	0.86	0.86	0.86	0.96	0.96	0.96	0.96	0.96	0.96	0.92	0.92	0.92	
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	
Heavy Vehicles (%)	0%	1%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0	
Parking (#/hr)													
Mid-Block Traffic (%)		0%			0%			0%			0%		
Adj. Flow (vph)	273	424	74	166	342	26	51	946	200	26	1064	179	
Shared Lane Traffic (%)													
Lane Group Flow (vph)	0	771	0	0	534	0	0	1197	0	0	1269	0	
Turn Type	Split	NA		Split	NA		Perm	NA		Perm	NA		
Protected Phases	4	4		8	8			2			6		9
Permitted Phases							2			6			
Detector Phase	4	4		8	8		2	2		6	6		
Switch Phase													
Minimum Initial (s)	8.0	8.0		12.0	12.0		12.0	12.0		8.0	8.0		1.0
Minimum Split (s)	14.0	14.0		18.0	18.0		18.0	18.0		14.0	14.0		19.0
Total Split (s)	31.0	31.0		26.0	26.0		56.0	56.0		56.0	56.0		19.0
Total Split (%)	23.5%	23.5%		19.7%	19.7%		42.4%	42.4%		42.4%	42.4%		14%
Maximum Green (s)	25.0	25.0		20.0	20.0		50.0	50.0		50.0	50.0		15.0
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0		4.0
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0		0.0
Lost Time Adjust (s)		0.0			0.0			0.0			0.0		
Total Lost Time (s)		6.0			6.0			6.0			6.0		
Lead/Lag	Lead	Lead		Lag	Lag								
Lead-Lag Optimize?	Yes	Yes		Yes	Yes								
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0		3.0
Minimum Gap (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0		3.0
Time Before Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0		0.0
Time To Reduce (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0		0.0
Recall Mode	None	None		None	None		Min	Min		Min	Min		None
Walk Time (s)													7.0
Flash Dont Walk (s)													8.0
Pedestrian Calls (#/hr)													100
Act Effct Green (s)		25.0			20.0			50.0			50.0		
Actuated g/C Ratio		0.19			0.15			0.38			0.38		
v/c Ratio		1.20			1.03			1.70			1.45		
Control Delay		150.6			102.6			348.5			242.8		
Queue Delay		0.0			0.0			0.0			0.0		
Total Delay		150.6			102.6			348.5			242.8		
LOS		F			F			F			F		
Approach Delay		150.6			102.6			348.5			242.8		
Approach LOS		F			F			F			F		
Queue Length 50th (ft)		~420			~257			~791			~778		

Lanes, Volumes, Timings
1: Alewife Brook Pkwy & Broadway

Build PM Peak




													
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Ø9
Queue Length 95th (ft)		#513			#377			#932			#918		
Internal Link Dist (ft)		264			674			533			685		
Turn Bay Length (ft)													
Base Capacity (vph)		641			516			705			873		
Starvation Cap Reductn		0			0			0			0		
Spillback Cap Reductn		0			0			0			0		
Storage Cap Reductn		0			0			0			0		
Reduced v/c Ratio		1.20			1.03			1.70			1.45		
Intersection Summary													
Area Type:	Other												
Cycle Length: 132													
Actuated Cycle Length: 132													
Natural Cycle: 150													
Control Type: Actuated-Uncoordinated													
Maximum v/c Ratio: 1.70													
Intersection Signal Delay: 237.6				Intersection LOS: F									
Intersection Capacity Utilization 116.6%				ICU Level of Service H									
Analysis Period (min) 15													
~ Volume exceeds capacity, queue is theoretically infinite.													
Queue shown is maximum after two cycles.													
# 95th percentile volume exceeds capacity, queue may be longer.													
Queue shown is maximum after two cycles.													

Splits and Phases: 1: Alewife Brook Pkwy & Broadway

 Ø2	 Ø9	 Ø4	 Ø8
56 s	19 s	31 s	26 s
 Ø6			
56 s			




HCM 6th TWSC
2: Broadway & Sunnyside Ave




Existing AM Peak




Intersection						
Int Delay, s/veh	3.5					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	10	577	380	25	39	17
Future Vol, veh/h	10	577	380	25	39	17
Conflicting Peds, #/hr	19	0	0	19	19	19
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	88	88	85	85	44	44
Heavy Vehicles, %	0	4	6	0	6	0
Mvmt Flow	11	656	447	29	89	39
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	495	0	-	0	1178	500
Stage 1	-	-	-	-	481	-
Stage 2	-	-	-	-	697	-
Critical Hdwy	4.1	-	-	-	6.46	6.2
Critical Hdwy Stg 1	-	-	-	-	5.46	-
Critical Hdwy Stg 2	-	-	-	-	5.46	-
Follow-up Hdwy	2.2	-	-	-	3.554	3.3
Pot Cap-1 Maneuver	1079	-	-	-	207	575
Stage 1	-	-	-	-	613	-
Stage 2	-	-	-	-	487	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1059	-	-	-	196	551
Mov Cap-2 Maneuver	-	-	-	-	196	-
Stage 1	-	-	-	-	592	-
Stage 2	-	-	-	-	478	-
Approach	EB	WB		SB		
HCM Control Delay, s	0.1	0		34.8		
HCM LOS				D		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1059	-	-	-	244	
HCM Lane V/C Ratio	0.011	-	-	-	0.522	
HCM Control Delay (s)	8.4	0	-	-	34.8	
HCM Lane LOS	A	A	-	-	D	
HCM 95th %tile Q(veh)	0	-	-	-	2.8	




HCM 6th TWSC
2: Broadway & Sunnyside Ave




Existing PM Peak

Intersection						
Int Delay, s/veh	1.1					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	12	523	424	23	23	14
Future Vol, veh/h	12	523	424	23	23	14
Conflicting Peds, #/hr	23	0	0	23	23	23
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	88	88	84	84	71	71
Heavy Vehicles, %	25	2	2	18	0	33
Mvmt Flow	14	594	505	27	32	20
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	555	0	-	0	1187	565
Stage 1	-	-	-	-	542	-
Stage 2	-	-	-	-	645	-
Critical Hdwy	4.35	-	-	-	6.4	6.53
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.425	-	-	-	3.5	3.597
Pot Cap-1 Maneuver	910	-	-	-	210	470
Stage 1	-	-	-	-	587	-
Stage 2	-	-	-	-	526	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	890	-	-	-	196	446
Mov Cap-2 Maneuver	-	-	-	-	196	-
Stage 1	-	-	-	-	561	-
Stage 2	-	-	-	-	514	-
Approach	EB	WB		SB		
HCM Control Delay, s	0.2	0		23.2		
HCM LOS				C		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	890	-	-	-	249	
HCM Lane V/C Ratio	0.015	-	-	-	0.209	
HCM Control Delay (s)	9.1	0	-	-	23.2	
HCM Lane LOS	A	A	-	-	C	
HCM 95th %tile Q(veh)	0	-	-	-	0.8	

Intersection						
Int Delay, s/veh	6.4					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	11	673	436	28	44	20
Future Vol, veh/h	11	673	436	28	44	20
Conflicting Peds, #/hr	19	0	0	19	19	19
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	88	88	85	85	44	44
Heavy Vehicles, %	0	4	6	0	6	0
Mvmt Flow	13	765	513	33	100	45
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	565	0	-	0	1359	568
Stage 1	-	-	-	-	549	-
Stage 2	-	-	-	-	810	-
Critical Hdwy	4.1	-	-	-	6.46	6.2
Critical Hdwy Stg 1	-	-	-	-	5.46	-
Critical Hdwy Stg 2	-	-	-	-	5.46	-
Follow-up Hdwy	2.2	-	-	-	3.554	3.3
Pot Cap-1 Maneuver	1017	-	-	-	161	526
Stage 1	-	-	-	-	571	-
Stage 2	-	-	-	-	431	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	999	-	-	-	152	504
Mov Cap-2 Maneuver	-	-	-	-	152	-
Stage 1	-	-	-	-	548	-
Stage 2	-	-	-	-	423	-
Approach	EB	WB		SB		
HCM Control Delay, s	0.1	0		64.4		
HCM LOS				F		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	999	-	-	-	194	
HCM Lane V/C Ratio	0.013	-	-	-	0.75	
HCM Control Delay (s)	8.6	0	-	-	64.4	
HCM Lane LOS	A	A	-	-	F	
HCM 95th %tile Q(veh)	0	-	-	-	5	

Intersection						
Int Delay, s/veh	3.9					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	13	607	513	26	53	24
Future Vol, veh/h	13	607	513	26	53	24
Conflicting Peds, #/hr	23	0	0	23	23	23
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	88	88	84	84	71	71
Heavy Vehicles, %	25	2	2	18	0	33
Mvmt Flow	15	690	611	31	75	34
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	665	0	-	0	1393	673
Stage 1	-	-	-	-	650	-
Stage 2	-	-	-	-	743	-
Critical Hdwy	4.35	-	-	-	6.4	6.53
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.425	-	-	-	3.5	3.597
Pot Cap-1 Maneuver	825	-	-	-	158	406
Stage 1	-	-	-	-	523	-
Stage 2	-	-	-	-	474	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	807	-	-	-	147	386
Mov Cap-2 Maneuver	-	-	-	-	147	-
Stage 1	-	-	-	-	496	-
Stage 2	-	-	-	-	464	-
Approach	EB	WB		SB		
HCM Control Delay, s	0.2	0		50.4		
HCM LOS				F		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	807	-	-	-	182	
HCM Lane V/C Ratio	0.018	-	-	-	0.596	
HCM Control Delay (s)	9.5	0	-	-	50.4	
HCM Lane LOS	A	A	-	-	F	
HCM 95th %tile Q(veh)	0.1	-	-	-	3.3	

Intersection						
Int Delay, s/veh	7.5					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	14	673	436	33	46	21
Future Vol, veh/h	14	673	436	33	46	21
Conflicting Peds, #/hr	19	0	0	19	19	19
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	88	88	85	85	44	44
Heavy Vehicles, %	0	4	6	0	6	0
Mvmt Flow	16	765	513	39	105	48
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	571	0	-	0	1368	571
Stage 1	-	-	-	-	552	-
Stage 2	-	-	-	-	816	-
Critical Hdwy	4.1	-	-	-	6.46	6.2
Critical Hdwy Stg 1	-	-	-	-	5.46	-
Critical Hdwy Stg 2	-	-	-	-	5.46	-
Follow-up Hdwy	2.2	-	-	-	3.554	3.3
Pot Cap-1 Maneuver	1012	-	-	-	159	524
Stage 1	-	-	-	-	569	-
Stage 2	-	-	-	-	428	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	994	-	-	-	149	502
Mov Cap-2 Maneuver	-	-	-	-	149	-
Stage 1	-	-	-	-	543	-
Stage 2	-	-	-	-	420	-
Approach	EB	WB		SB		
HCM Control Delay, s	0.2	0		72.3		
HCM LOS				F		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	994	-	-	-	191	
HCM Lane V/C Ratio	0.016	-	-	-	0.797	
HCM Control Delay (s)	8.7	0	-	-	72.3	
HCM Lane LOS	A	A	-	-	F	
HCM 95th %tile Q(veh)	0	-	-	-	5.5	

Intersection						
Int Delay, s/veh	4.9					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	14	607	513	28	59	27
Future Vol, veh/h	14	607	513	28	59	27
Conflicting Peds, #/hr	23	0	0	23	23	23
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	88	88	84	84	71	71
Heavy Vehicles, %	25	2	2	18	0	33
Mvmt Flow	16	690	611	33	83	38
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	667	0	-	0	1396	674
Stage 1	-	-	-	-	651	-
Stage 2	-	-	-	-	745	-
Critical Hdwy	4.35	-	-	-	6.4	6.53
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.425	-	-	-	3.5	3.597
Pot Cap-1 Maneuver	823	-	-	-	157	405
Stage 1	-	-	-	-	523	-
Stage 2	-	-	-	-	473	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	805	-	-	-	145	385
Mov Cap-2 Maneuver	-	-	-	-	145	-
Stage 1	-	-	-	-	495	-
Stage 2	-	-	-	-	463	-
Approach	EB	WB		SB		
HCM Control Delay, s	0.2	0		58.5		
HCM LOS				F		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	805	-	-	-	180	
HCM Lane V/C Ratio	0.02	-	-	-	0.673	
HCM Control Delay (s)	9.6	0	-	-	58.5	
HCM Lane LOS	A	A	-	-	F	
HCM 95th %tile Q(veh)	0.1	-	-	-	4	

HCM 6th TWSC
3: Sunnyside Ave & Site Dr

Build AM Peak

Intersection						
Int Delay, s/veh	0.8					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	🚗🚗			🚗🚗	🚗🚗	
Traffic Vol, veh/h	0	3	8	39	64	0
Future Vol, veh/h	0	3	8	39	64	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	3	9	42	70	0
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	130	70	70	0	-	0
Stage 1	70	-	-	-	-	-
Stage 2	60	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	864	993	1531	-	-	-
Stage 1	953	-	-	-	-	-
Stage 2	963	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	859	993	1531	-	-	-
Mov Cap-2 Maneuver	859	-	-	-	-	-
Stage 1	947	-	-	-	-	-
Stage 2	963	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	8.6	1.3		0		
HCM LOS	A					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1531	-	993	-	-	
HCM Lane V/C Ratio	0.006	-	0.003	-	-	
HCM Control Delay (s)	7.4	0	8.6	-	-	
HCM Lane LOS	A	A	A	-	-	
HCM 95th %tile Q(veh)	0	-	0	-	-	

Intersection						
Int Delay, s/veh	1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	🚗			🚗	🚗	
Traffic Vol, veh/h	0	9	3	39	43	0
Future Vol, veh/h	0	9	3	39	43	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	0
Mvmt Flow	0	10	3	42	47	0
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	95	47	47	0	-	0
Stage 1	47	-	-	-	-	-
Stage 2	48	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	905	1022	1560	-	-	-
Stage 1	975	-	-	-	-	-
Stage 2	974	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	903	1022	1560	-	-	-
Mov Cap-2 Maneuver	903	-	-	-	-	-
Stage 1	973	-	-	-	-	-
Stage 2	974	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	8.6	0.5		0		
HCM LOS	A					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1560	-	1022	-	-	
HCM Lane V/C Ratio	0.002	-	0.01	-	-	
HCM Control Delay (s)	7.3	0	8.6	-	-	
HCM Lane LOS	A	A	A	-	-	
HCM 95th %tile Q(veh)	0	-	0	-	-	

From: "Robert Annese" <law@robertannese.com>
To: "Jennifer Raitt" <JRaitt@town.arlington.ma.us>, "Erin Zwirko" <EZwirko@town.arlington.ma.us>
Cc: <kfeyl@lyfarchitects.com>
Date: 02/24/2021 04:29 PM
Subject: 400 - 402 Massachusetts Avenue, Arlington, MA

CAUTION: This email originated from outside of the Town of Arlington's email system. Do not click links or open attachments unless you recognize the REAL sender (whose email address in the From: line in "< >" brackets) and you know the content is safe.

Hi Jenny and Erin:

I am sending along revised plans with respect to the continued hearing scheduled for next Monday evening, March 1, 2021 as follows:

- The revised plans show that the exiting office located in the basement will remain.
- The first level of the building will contain an office unit on the righthand side of the building fronting on Massachusetts Avenue and a residential unit on the left hand side.
- The second level will contain two residential units.
- Each of units will be one-bedroom units.
- The bicycle storage area will be located on the first floor rather than in the basement.
- There will be an electric motor vehicle charging station as shown on the plans.
- The revised plans also show a covered trash enclosure.
- The revisions to the previously filed plans are an effort on the part the Applicants to comply with what they understand to be comments made during the first ARB hearing, particularly so with respect to the impression they came away that while a conversion to four residential units would not be acceptable, a conversion to three residential units might be acceptable.
- I am also sending along a revised Dimensional form in connection with the revisions to the plans.

While the Applicants position previously requesting four residential units was based upon reasons which they presented to the ARB during the initial hearing, they now clearly understand that a request for four residential units is not likely to be approved by the members of the Board of Appeals.

It is important to note that if the ARB approves the revised plans for two office units and three residential units, the property will then become subject to the jurisdiction of the ARB and not the Zoning Board of Appeals as would be the case if the matter is sent back to the Zoning Board of Appeals because of no favorable action by the ARB.

The location of the property on Massachusetts Avenue, in a mixed-use area, is an indication that the property would be within the jurisdiction of the ARB and not the Zoning Board of Appeals but for the 1980 Zoning Board of Appeals Decision.

In addition, there would be no obligation on the part of the Applicants to provide bicycle parking and an electric charging station if the Zoning Board of Appeals retains jurisdiction over the

property because they would not be requesting any relief from the Zoning Board of Appeals.

Chapter 40A, Section 7 deals with any issue with respect to a statement made at the last ARB hearing relating to whether the building, as constructed, was constructed in accordance with the substance of the 1980 Zoning Board of Appeals' Decision.

No plans with respect to the 1980 Zoning Board of Appeals Decision can be located or any other information relating to the physical characteristics of the building to be reconstructed after the fire which occurred at the property.

Chapter 40A, Section 7 has been enacted by the State Legislature to specifically deal with this type of situation by providing that there can be no action by a representative of a building department "to compel the removal, alteration or relocation of any structure by reason of any alleged violation of the provisions of Chapter 40A or any Ordinance or Bylaw adopted thereunder or the conditions of any Variance or Special Permit, unless an enforcement action is pursued within ten years after the commencement of the alleged violation" which has not occurred with respect to the property.

Even if there was a violation, which the Applicants do not concede, the property is now legally nonconforming in accordance with the provisions of Chapter 40A and the Town of Arlington's Zoning Ordinance.

In addition the tandem parking and the manner in which vehicles exit the parking area at the building have not changed since the date of the 1980 Zoning Decision and even prior to that date.

In summary, the Applicants request that their Application previously filed be approved for three residential units and two office units as shown on the revised plans which are now being filed with the ARB.

Thank you.

Bob

-
-

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Robert J. Annese, Esquire
1171 Massachusetts Avenue
Arlington, MA 02476
Telephone: 781-646-4911
Facsimile: 781-646-4910
law@robertannese.com

Attachments:

File: 400-402 Mas Ave Dimensional and Open Space 2021 02 24.pdf	Size: 70k	Content Type: application/pdf
File: 2021-02-23 400 Mass Ave Arlington Apartments_REV PLANS.pdf	Size: 331k	Content Type: application/pdf

TOWN OF ARLINGTON

Dimensional and Parking Information
for Application to
The Arlington Redevelopment Board

Docket No. _____

Property Location ARLINGTON, MA

Zoning District B1

Owner: 400-402 MASS AVE LLC

Address: 400-402 MASS AVE, ARLINGTON

Present Use/Occupancy: No. of Dwelling Units:

(2) Res Dwelling Units + (3) Business Units

Proposed Use/Occupancy: No. of Dwelling Units:

(3) Res Dwelling Units + (2) Business Unit

Uses and their gross square feet:

Residential: 2,225 GSF / Business: 2,692 GSF / (638 GSF Circ+Stor)

Uses and their gross square feet:

Residential: 3,053 GSF / Business: 1,736 GSF / (766 GSF Circ+Stor)

	Present Conditions	Proposed Conditions	Min. or Max. Required by Zoning for Proposed Use
Lot Size	4756 SF	4756 SF	min. 5,000 SF
Frontage	71.7 FT Mass Ave 68 FT Avon St.	71.7 FT Mass Ave 68 FT Avon St.	min. 50 FT
Floor Area Ratio	1.16	1.16	max. .75
Lot Coverage (%), where applicable	--	--	max. N/A
Lot Area per Dwelling Unit (square feet)	(2 Dwelling Units) 2378 SF	(3 Dwelling Units) 1585 SF	min. 2,500 SF
Front Yard Depth (feet)	0 FT	0 FT	min. 20 FT
Side Yard Width (feet)	right side left side	5 FT	min. 10 FT
			min. 10 FT
Rear Yard Depth (feet)	20 FT	20 FT	min. 20 FT
Height	--	--	min. --
Stories	2 & 1/2 STY	2 & 1/2 STY	stories 3
Feet	29.9 FT	29.9 FT	feet 35 FT
Open Space (% of G.F.A.)	--	--	min. --
Landscaped (square feet)	864 SF +/-	864 SF +/-	(s.f.) 10%, OR 555 SF
Usable (square feet)	0	0	(s.f.) 20%, OR 1111 SF
Parking Spaces (No.)	6	5	min. 5
Parking Area Setbacks (feet), where applicable	N/A	N/A	min. --
Loading Spaces (No.)	0	0	min. --
Type of Construction	WOOD FRAME, TYPE VB		
Distance to Nearest Building	10'-3" +/-	10'-3" +/-	min. N/A

OPEN SPACE/GROSS FLOOR AREA

Refer to Zoning Bylaw Article 2, Definitions and Article 6, Dimensional Regulations

Address: 400-402 MASS AVE, ARLINGTON Zoning District: B1

OPEN SPACE	EXISTING	PROPOSED
Total lot area	4,756 SF	4,756 SF
Open Space (Usable)*	0	0
Open Space (Landscaped)	864 SF +/-	864 SF +/-

*Usable Open Space must be at least 75% open to the sky, free of automotive, traffic and parking, and readily accessible. Open space shall be deemed usable only if: 1) at least 75% of the area has a grade of less than 8% and no horizontal dimension less than 25 feet.

GROSS FLOOR AREA (GFA)		
Accessory building	N/A	N/A
Basement or cellar (>5' excluding mechanical area)	1655 SF +/-	1555 SF +/-
1 st Floor	1736 SF +/-	1736 SF +/-
2 nd Floor	1582 SF +/-	1582 SF +/-
3 rd Floor	582 SF +/-	582 SF +/-
4 th Floor	N/A	N/A
5 th Floor	N/A	N/A
Attic (>7'3" in height, excluding elevator, mechanical)	N/A	N/A
Parking garages (except as used for accessory Parking garages or off street loading purposes)	N/A	N/A
All weather habitable porches and balconies	N/A	N/A
Total Gross Floor Area (GFA)	5555 SF +/-	5555 SF +/-

REQUIRED MINIMUM OPEN SPACE AREA

Proposed Usable Open Space Percent of GFA

Proposed Landscaped Open Space Percent of GFA

This worksheet applies to plans dated 2/23/2021 designed by LaGrasse Yanowitz & Feyl Architects (LYF Architects)

Reviewed by Inspectional Services _____ Date: _____

Stamp:

400 MASS AVE ARLINGTON

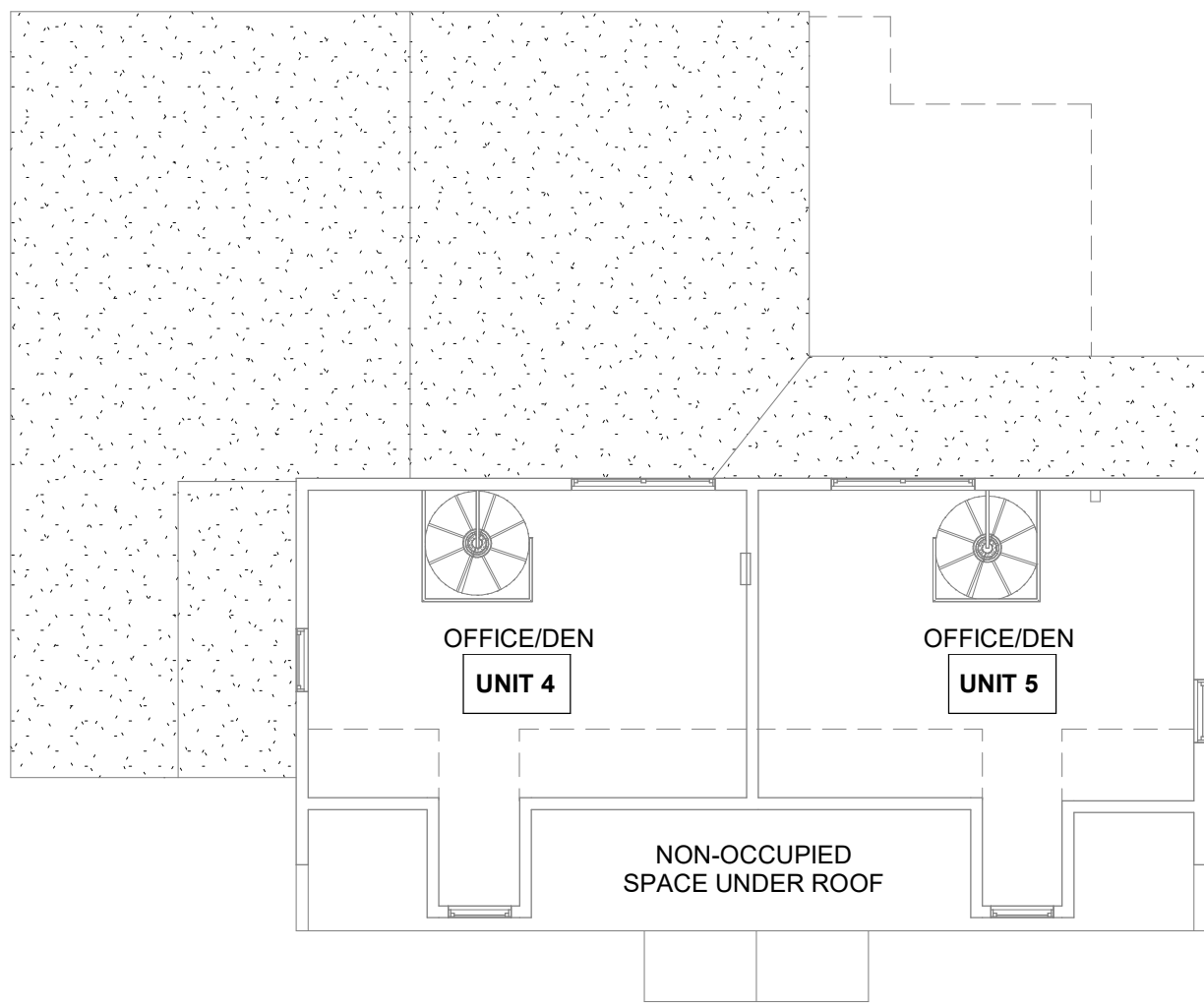
EXISTING FLOOR PLANS

prepared for:
location: Approver

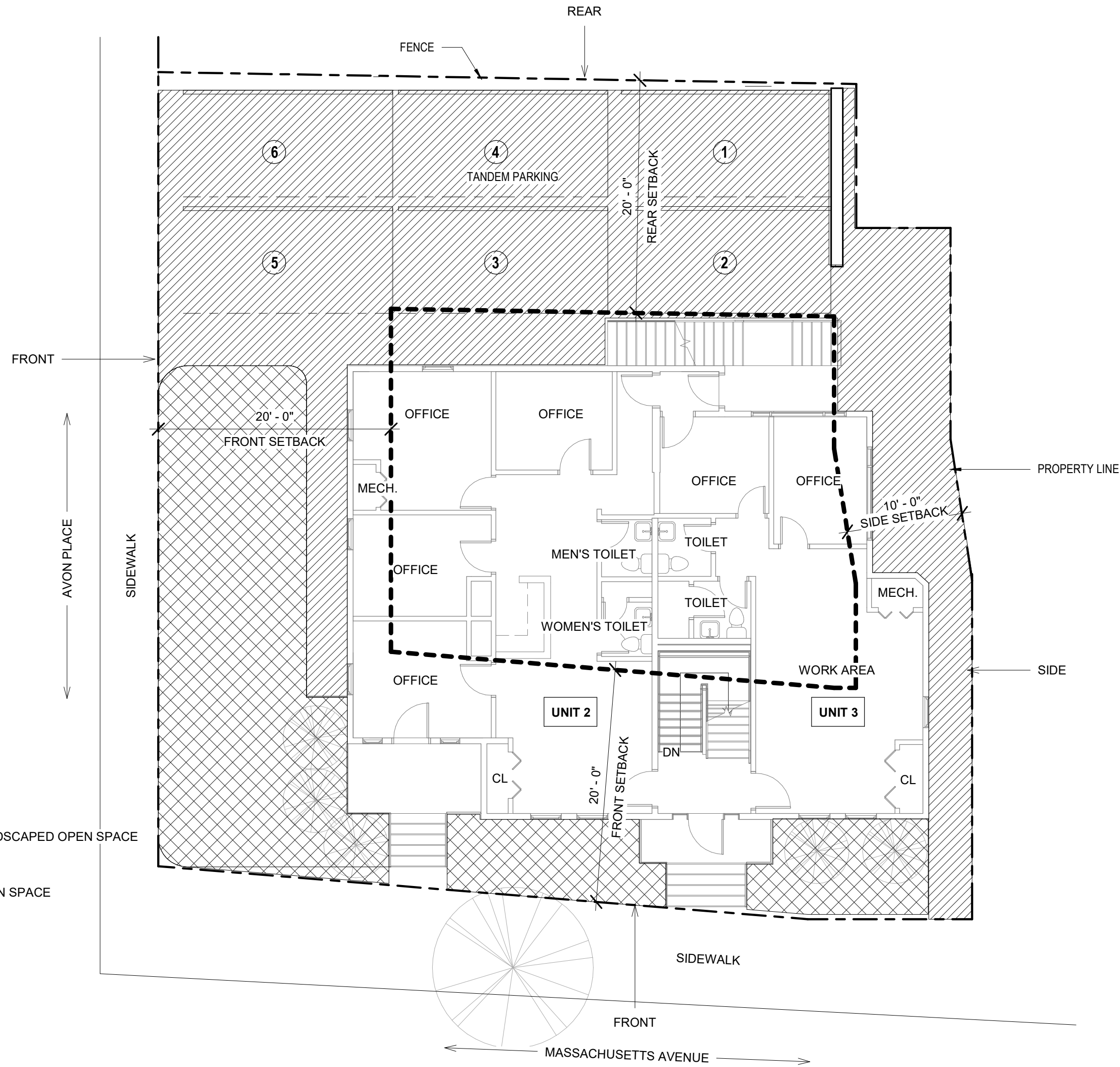
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Mark	Date
REVISIONS	
Date	02/23/2021
Scale	As indicated
Job No.	2876
Sheet No.	

A100



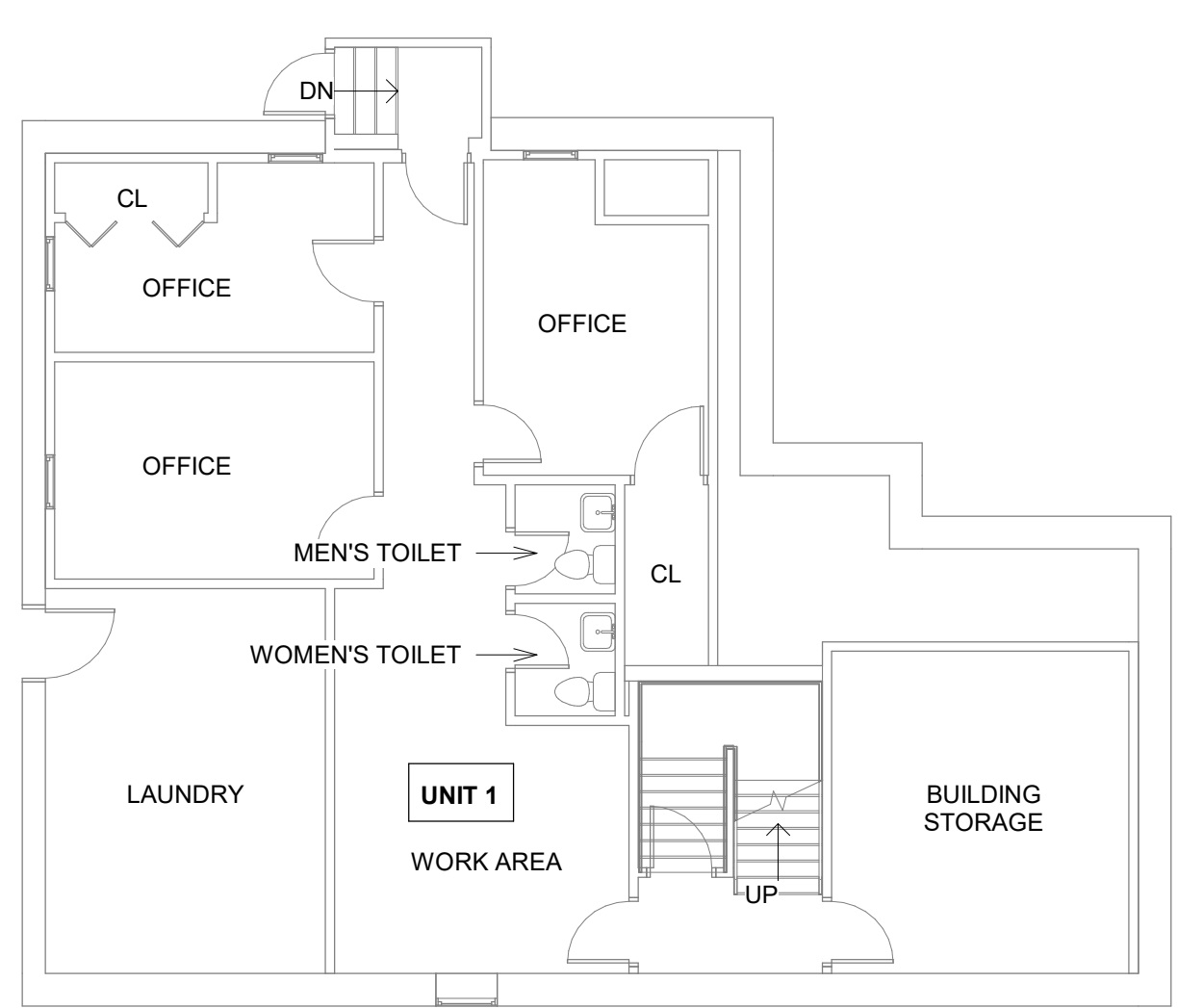
4 ATTIC 1/2 STORY FLOOR PLAN
1/8" = 1'-0"



2 EXISTING FIRST FLOOR PLAN + SITE W/
ZONING INFORMATION
1/8" = 1'-0"



3 SECOND FLOOR PLAN
1/8" = 1'-0"



1 BASEMENT PLAN
1/8" = 1'-0"

SUMMARY USE GROUPS			
FLOOR	UNIT	EXISTING	PROPOSED
BASEMENT	UNIT 1	BUSINESS	BUSINESS (NO CHANGE)
1ST FLOOR	UNIT 2	BUSINESS	RESIDENTIAL 2 BEDROOM
1ST FLOOR	UNIT 3	BUSINESS	BUSINESS (NO CHANGE)
2ND FLOOR	UNIT 4	RESIDENTIAL 1 BEDROOM	RESIDENTIAL 1 BEDROOM (NO CHANGE)
2ND FLOOR	UNIT 5	RESIDENTIAL 1 BEDROOM	RESIDENTIAL 1 BEDROOM (NO CHANGE)
		2 BEDROOMS	4 BEDROOMS

Stamp:

400 MASS AVE ARLINGTON

PROPOSED FLOOR PLANS

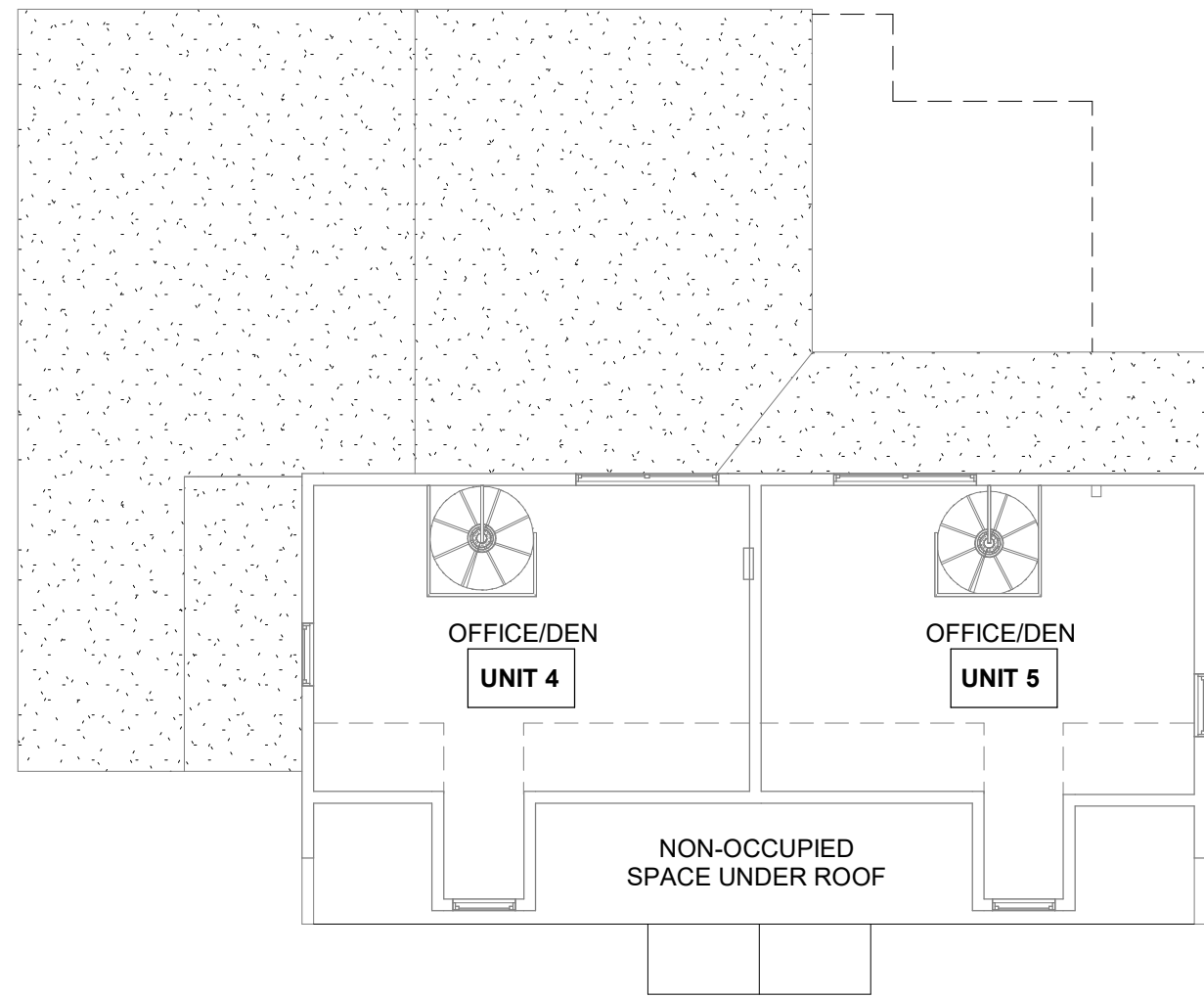
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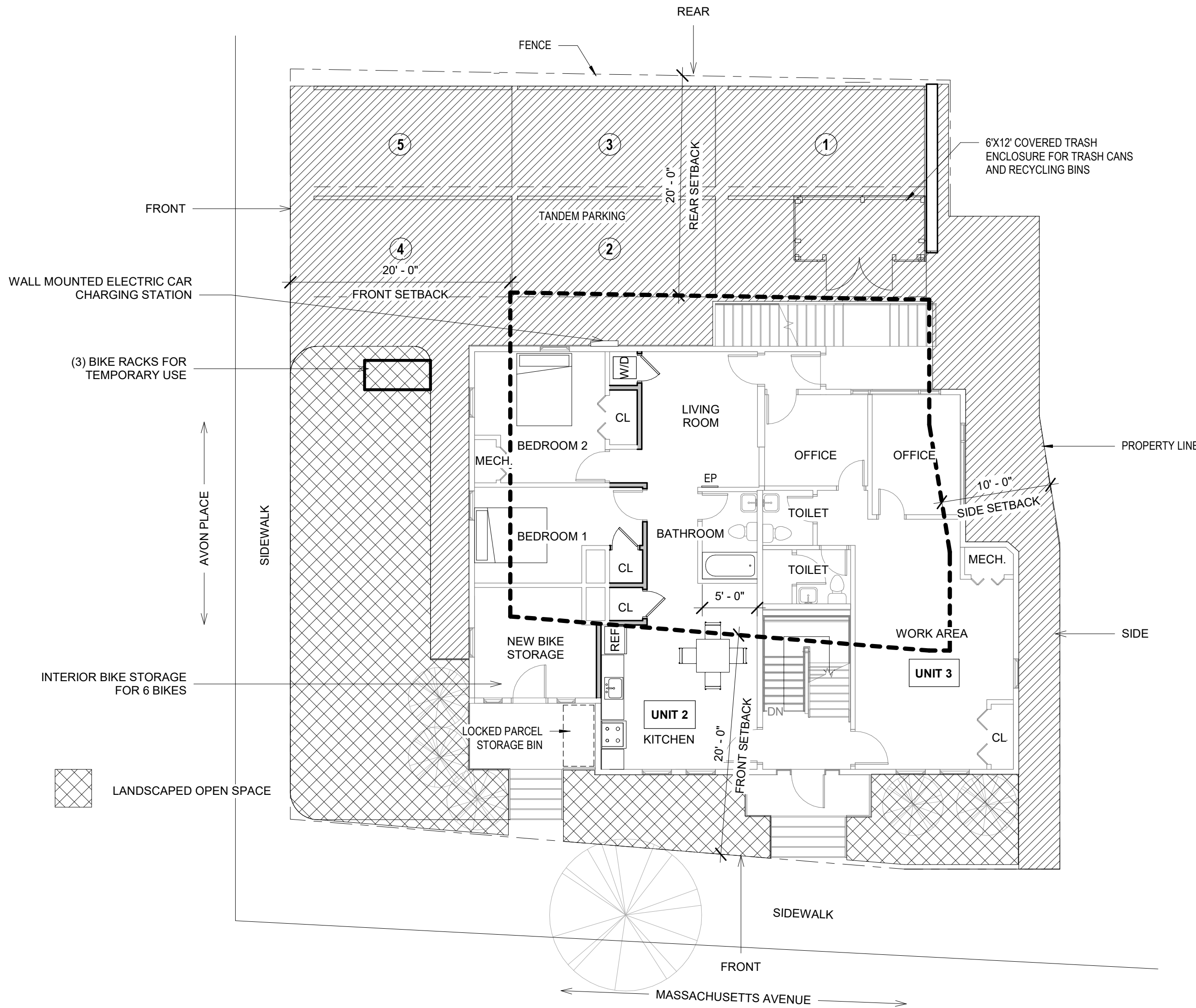
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Date	02/23/2021
Scale	As indicated
Job No.	2876
Sheet No.	

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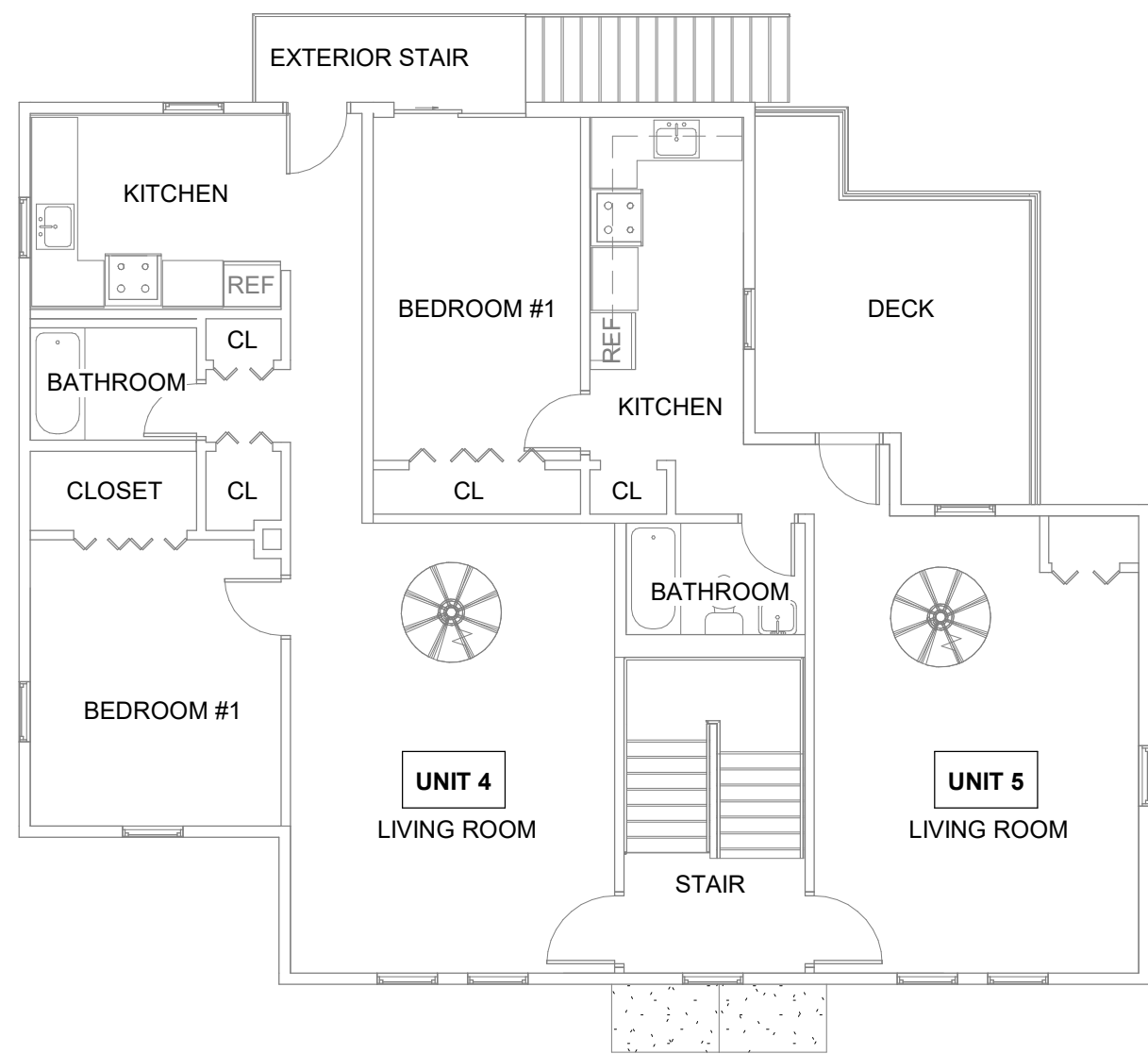
4 ATTIC 1/2 STORY (NO CHANGES)
1/8" = 1'-0"



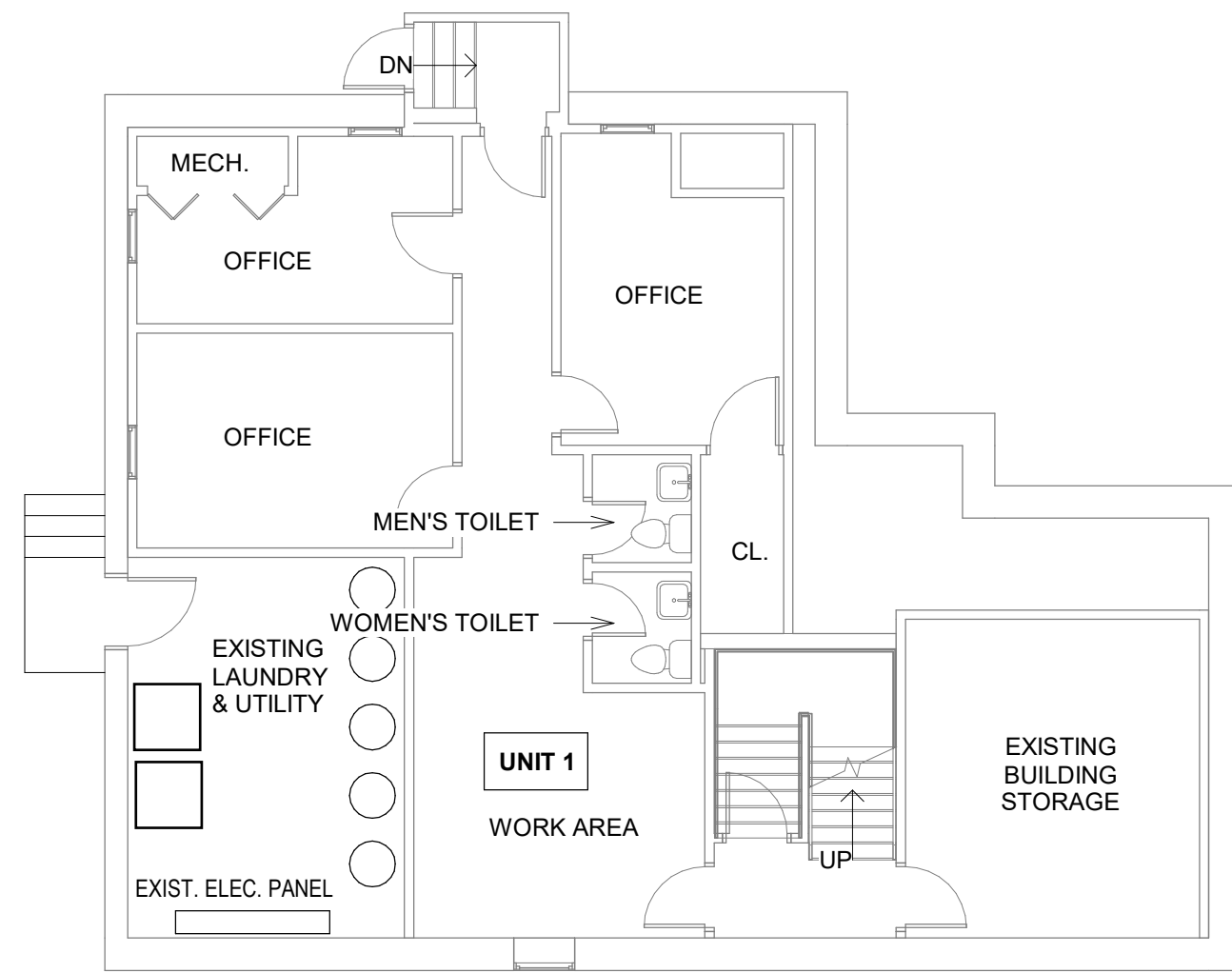
2 PROPOSED FIRST FLOOR PLAN + SITE
W/ZONING INFORMATION
1/8" = 1'-0"



3 SECOND FLOOR PLAN (NO CHANGES)
1/8" = 1'-0"



1 BASEMENT PLAN (NO CHANGES)
1/8" = 1'-0"





Town of Arlington, Massachusetts
Department of Planning & Community Development
730 Massachusetts Avenue, Arlington, Massachusetts 02476

Public Hearing Memorandum

The purpose of this memorandum is to provide the Arlington Redevelopment Board and public with technical information and a planning analysis to assist with the regulatory decision-making process.

To: Arlington Redevelopment Board

From: Jennifer Raitt, Secretary Ex Officio

Subject: Environmental Design Review, 400-402 Massachusetts Ave, Arlington, MA
Docket #3638

Date: November 19, 2020

I. Docket Summary

This is an application by 400-402 Mass Avenue, LLC to establish a mixed-use building with four (4) residential units and (1) office unit in an existing building at 400-402 Massachusetts Avenue. The opening of Special Permit Docket #3633 will allow the Board to review and approve the development in the B1 Neighborhood Office District under Section 3.4 Environmental Design Review (EDR).

A 1980 Zoning Board of Appeals (ZBA) decision was issued relative to this property which limited the number of residential units on the property to two (2) with one (1) onsite parking space per dwelling unit. The Special Permit decision also conditioned the entrance to the basement office be from the front of the building with an open stairway leading down from the front inside entrance and clearly marked as to how to enter the basement office.

On June 23, 2020, the ZBA issued a decision (attached) amending the 1980 decision. The ZBA found that it would be appropriate for the ARB to evaluate the application under Environmental Design Review as the ARB is the Special Permit Granting Authority for the site and proposed use. The ZBA decided that if the ARB grant a special permit after finding that all applicable review criteria are met then the four conditions of the 1980 Special

Permit would be withdrawn. If the ARB does not grant a special permit, then the 1980 conditions would stand.

The Applicant does not propose any exterior changes to the existing building. Based on the information presented in the application materials, the Applicant is seeking review by the ARB in order to convert office space into dwelling units. If there are any exterior changes proposed, including signage, the Applicant must seek a Certificate of Appropriateness from the Arlington Historic Districts Commission due to being located within the Avon Place Historic District.

Materials submitted for consideration of this application:

- Application for EDR Special Permit including dimensional and parking information, dated October 15, 2020 and updated November 7, 2020;
- Narrative and impact statement dated October 15, 2020 and updated November 7, 2020;
- LEED Considerations, prepared by Lagrasse Yanowitz & Feyl, dated October 15, 2020 and updated November 7, 2020;
- Building Façade Photos, dated October 15, 2020 and updated November 7, 2020;
- Existing Floor Plans, prepared by Lagrasse Yanowitz & Feyl, dated January 14, 2020; and
- Proposed Floor Plans, prepared by Lagrasse Yanowitz & Feyl, dated May 28, 2020.

II. Application of Special Permit Criteria (Arlington Zoning Bylaw, Section 3.3)

1. Section 3.3.3.A.

The use requested is listed as a Special Permit in the use regulations for the applicable district or is so designated elsewhere in this Bylaw.

The use is allowed in the B1 Neighborhood Office District with a Special Permit under the jurisdiction of the ARB due to its location on Massachusetts Avenue. The Board can find that this condition is met.

2. Section 3.3.3.B.

The requested use is essential or desirable to the public convenience or welfare.

The Master Plan recommends supporting commercial areas by encouraging new redevelopment, including residential and commercial uses, in and near commercial corridors. This building is located in the Arlington Center commercial district and in close proximity to amenities located on Massachusetts Avenue. The corridor is served by transit and the site by existing infrastructure. This project will provide a net increase of two residential units. The Board can find that this condition is met.

3. Section 3.3.3.C.

The requested use will not create undue traffic congestion or unduly impair pedestrian safety.

The proposed use will not create undue traffic congestion or unduly impair pedestrian safety. The Board can find that this condition is met.

4. Section 3.3.3.D.

The requested use will not overload any public water, drainage or sewer system or any other municipal system to such an extent that the requested use or any developed use in the immediate area or in any other area of the Town will be unduly subjected to hazards affecting health, safety, or the general welfare.

The proposed use will not overload any municipal systems. The Board can find that this condition is met.

5. Section 3.3.3.E.

Any special regulations for the use as may be provided in the Bylaw are fulfilled.

All such regulations are fulfilled.

6. Section 3.3.3.F.

The requested use will not impair the integrity or character of the district or adjoining districts, nor be detrimental to the health or welfare.

The proposed use does not impair the integrity or character of the B1 district or adjoining districts and will not be detrimental to health or welfare. The Board can find that this condition is met.

7. Section 3.3.3.G.

The requested use will not, by its addition to a neighborhood, cause an excess of the use that could be detrimental to the character of said neighborhood.

The proposed use will not be in excess or detrimental to the character of the neighborhood. The Board can find that this condition is met.

III. Environmental Design Review Standards (Arlington Zoning Bylaw, Section 3.4)

1. EDR-1 Preservation of Landscape

The landscape shall be preserved in its natural state, insofar as practicable, by minimizing tree and soil removal, and any grade changes shall be in keeping with the general appearance of neighboring developed areas.

There are no exterior changes proposed. Existing landscaping at the front of the building and along the Avon Place sidewalk will remain. The Board can find that this condition is met.

2. EDR-2 Relation of the Building to the Environment

Proposed development shall be related harmoniously to the terrain and to the use, scale, and architecture of the existing buildings in the vicinity that have functional or visible relationship to the proposed buildings. The Arlington Redevelopment Board may require a modification in massing so as to reduce the effect of shadows on the abutting property in an R0, R1 or R2 district or on public open space.

The existing building is situated in a stretch of Massachusetts Avenue in Arlington Center that is zoned B1. Within this district there are: two mixed-use buildings of residential and office space; a funeral home; two two-family dwellings; a three-family dwelling; and a single-family dwelling. The proposed mix of office space and residential space is consistent with the current uses in this B1 district. With no exterior changes to the existing building at 400-402 Massachusetts Avenue, there will be no change to the existing architectural pattern along this stretch of Massachusetts Avenue. The Board can find that this condition is met.

3. EDR-3 Open Space

All open space (landscaped and usable) shall be so designed as to add to the visual amenities of the vicinity by maximizing its visibility for persons passing by the site or overlooking it from nearby properties. The location and configuration of usable open space shall be so designed as to encourage social interaction, maximize its utility and facilitate maintenance.

The existing open space remains as there are no exterior changes to the existing structure. The site includes 864 square feet of landscaped open space and zero square feet of usable open space. The Board can find that this condition is met.

4. EDR-4 Circulation

With respect to vehicular and pedestrian and bicycle circulation, including entrances, ramps, walkways, drives, and parking, special attention shall be given to location and number of access points to the public streets (especially in relation to existing traffic controls and mass transit facilities), width of interior drives and access points, general interior circulation, separation of pedestrian and vehicular traffic, access to community facilities, and arrangement of vehicle parking and bicycle parking areas, including bicycle parking spaces required by Section 6.1.12 that are safe and convenient and, insofar as practicable, do not detract from the use and enjoyment of proposed buildings and structures and the neighboring properties.

The Applicant is proposing six parking spaces on site, and is requesting a parking reduction per Section 6.1.5. The parking requirement for the building is as follows:

Parking Requirement			
		<u>Zoning Requirement</u>	<u>Total Parking Required</u>
Office Space	630 sf	1/500 sf*	0
Residential	3 one-bed 1 two-bed	1.15 spaces per one-bed 1.5 spaces per two-bed	5 spaces
Total Parking			6 spaces
Section 6.1.5 Reduction			Not necessary
Total Parking Provided			6 spaces
* First 3,000 sf of non-residential space in mixed-use projects is exempt.			

Because the first 3,000 square feet of mixed-use buildings is exempt from the parking requirement (Section 6.1.10.C.), providing six parking spaces is consistent with the requirements of Section 6.1 and a parking reduction under Section 6.1.5 is not necessary. However, the Transportation Demand Management (TDM) Plan is accepted and should be implemented. The TDM Plan includes providing covered bicycle parking and storage, providing an electric charging station, and installing a shower in the office unit. While these items seem appropriate for the proposal, the Applicant should clarify the following: specify if a shower is proposed; identify where the EV charger will be installed; and provide details on how the covered bicycle storage will be provided, including the number of short- and long-term bicycle parking spaces per Section 6.1.12(A).

Providing tandem (stacked) parking is allowed per the bylaw and the parking spaces appear to be sized appropriately. The Applicant should provide additional information on how the six parking spaces will be assigned to limit conflicts among the building tenants.

The vehicle parking spaces and overall site circulation may be constrained. The stacked parking on the side entry aisle appears narrow and the side exit aisle also appears narrow. Compact parking spaces may be recommended and additional safety measures installed onsite to accommodate vehicles and pedestrians on the property.

5. EDR-5 Surface Water Drainage

Special attention shall be given to proper site surface drainage so that removal of surface waters will not adversely affect neighboring properties or the public storm drainage system. Available Best Management Practices for the site should be employed, and include site planning to minimize impervious surface and reduce clearing and re-grading. Best Management Practices may include erosion control and

stormwater treatment by means of swales, filters, plantings, roof gardens, native vegetation, and leaching catch basins. Stormwater should be treated at least minimally on the development site; that which cannot be handled on site shall be removed from all roofs, canopies, paved and pooling areas and carried away in an underground drainage system. Surface water in all paved areas shall be collected in intervals so that it will not obstruct the flow of vehicular or pedestrian traffic and will not create puddles in the paved areas.

In accordance with Section 3.3.4., the Board may require from any applicant, after consultation with the Director of Public Works, security satisfactory to the Board to insure the maintenance of all stormwater facilities such as catch basins, leaching catch basins, detention basins, swales, etc. within the site. The Board may use funds provided by such security to conduct maintenance that the applicant fails to do.

The Board may adjust in its sole discretion the amount and type of financial security such that it is satisfied that the amount is sufficient to provide for any future maintenance needs.

No stormwater controls are present on the site, and the proposal does not trigger the addition of additional controls. However, stormwater from the roof appears to sheet flow off the property and the Applicant could investigate ways to better control and mitigate flow before it reaches the street.

6. EDR-6 Utilities Service

Electric, telephone, cable TV, and other such lines of equipment shall be underground. The proposed method of sanitary sewage disposal and solid waste disposal from all buildings shall be indicated.

There will be no changes to the existing utility service infrastructure as a result of this proposal. The Board can find that this condition is met.

7. EDR-7 Advertising Features

The size, location, design, color, texture, lighting and materials of all permanent signs and outdoor advertising structures or features shall not detract from the use and enjoyment of proposed buildings and structures and the surrounding properties.

The application materials do not include any information about new signage at the building, nor does the application indicate whether the existing office signage will be removed. Final signage plans will need to be submitted, reviewed, and approved by the ARB and the Historic Districts Commission as this property is located in the Avon Place Historic District.

8. EDR-8 Special Features

Exposed storage areas, exposed machinery installations, service areas, truck loading areas, utility buildings and structures, and similar accessory areas and structures shall be subject to such setbacks, screen plantings or other screening methods as shall reasonably be required to prevent their being incongruous with the existing or contemplated environment and the surrounding properties.

The application materials do not provide any information about how solid waste and recycling will be screened and maintained. The photos provided with the application materials show totes placed along the building rear. The Applicant should provide either a closed and screened area at the building rear or space within the building for waste and recycling.

9. EDR-9 Safety

With respect to personal safety, all open and enclosed spaces shall be designed to facilitate building evacuation and maximize accessibility by fire, police and other emergency personnel and equipment. Insofar as practicable, all exterior spaces and interior public and semi-public spaces shall be so designed to minimize the fear and probability of personal harm or injury by increasing the potential surveillance by neighboring residents and passersby of any accident or attempted criminal act.

The existing building provides safe and convenient access into and around the property. The Board can find that this condition is met.

10. EDR-10 Heritage

With respect to Arlington's heritage, removal or disruption of historic, traditional or significant uses, structures or architectural elements shall be minimized insofar as practical whether these exist on the site or on adjacent properties.

Based on the information presented in the applicant materials, there are no proposed exterior changes to the existing building. If there are any exterior changes proposed, including signage, the Applicant must seek a Certificate of Appropriateness from the Arlington Historic Districts Commission due to being located within the Avon Place Historic District. The Board can find that this condition is met.

11. EDR-11 Microclimate

With respect to the localized climatic characteristics of a given area, any development which proposes new structures, new hard surface, ground coverage or the installation of machinery which emits heat, vapor or fumes shall endeavor to minimize insofar as practicable, any adverse impacts on light, air and water resources or on noise and temperature levels of the immediate environment.

There are no proposed changes that would affect the microclimate. The Board can find that this condition is met.

12. EDR-12 Sustainable Building and Site Design

Projects are encouraged to incorporate best practices related to sustainable sites, water efficiency, energy and atmosphere, materials and resources, and indoor environmental quality. Applicants must submit a current Green Building Council Leadership in Energy and Environmental Design (LEED) checklist, appropriate to the type of development, annotated with narrative description that indicates how the LEED performance objectives will be incorporated into the project.

A LEED checklist was not provided, but a memo from Lagrasse Yanowitz & Feyl provides an overview of the sustainable building practices that will be incorporated as part of the renovation. The Board can find that this condition is met.

IV. Findings

1. The proposed project is approved under Section 3.4, Environmental Design Review.

V. Conditions

1. The final design and sign plans shall be subject to the approval of the Arlington Redevelopment Board or administratively approved by the Department of Planning and Community Development. Any substantial or material deviation during construction from the approved plans and specifications is subject to the written approval of the Arlington Redevelopment Board
2. Any substantial or material deviation during construction from the approved plans and specifications is subject to the written approval of the Arlington Redevelopment Board.
3. The Board maintains continuing jurisdiction over this permit and may, after a duly advertised public hearing, attach other conditions or modify these conditions as it deems appropriate in order to protect the public interest and welfare.
4. Snow removal from all parts of the site, as well as from any abutting public sidewalks, shall be the responsibility of the owner and shall be accomplished in accordance with Town Bylaws.
5. Trash shall be picked up only on Monday through Friday between the hours of 7:00 am and 6:00 pm. All exterior trash and storage areas on the property, if any, shall be properly screened and maintained in accordance with the Town Bylaws.
6. All utilities serving or traversing the site (including electric, telephone, cable, and other such lines and equipment) shall be underground.

7. Upon the issuance of the building permit the Applicant shall file with the Inspectional Services Department and the Police Department the names and telephone numbers of contact personnel who may be reached 24 hours each day during the construction period.
8. Any final building signage will be reviewed and approved by the Arlington Historic Districts Commission, Department of Planning and Community Development, and Inspectional Services.
9. The Final Transportation Demand Management Plan shall be submitted for review and approval by the Department of Planning and Community Development.



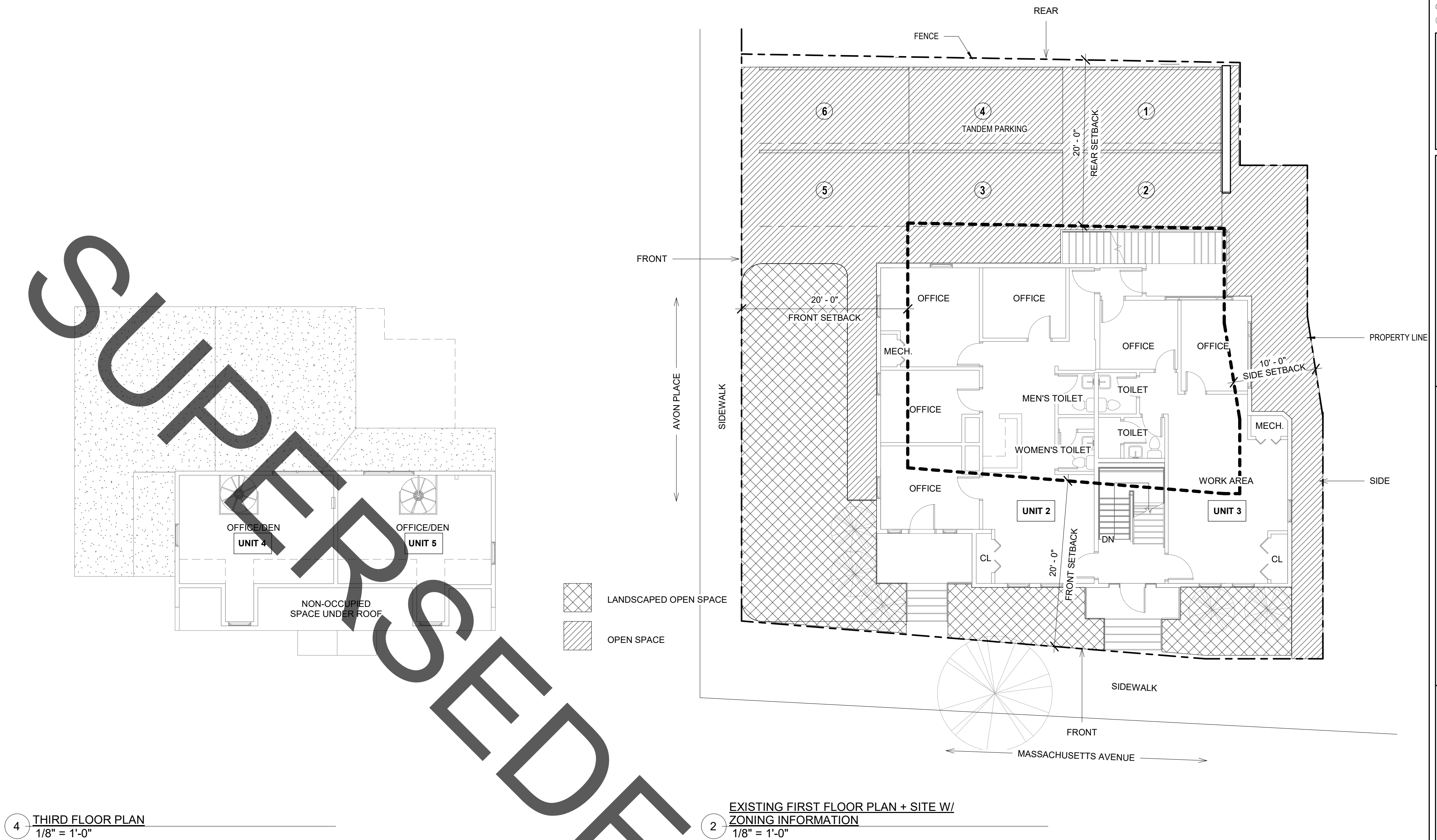
Stamp:

400 MASS AVE ARLINGTON

EXISTING FLOOR PLANS

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Mark	Date
REVISIONS	
Date	02/17/2021
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Job No.	2876
Sheet No.	

A100



4 THIRD FLOOR PLAN
1/8" = 1'-0"

2 EXISTING FIRST FLOOR PLAN + SITE W/
ZONING INFORMATION
1/8" = 1'-0"

SUMMARY USE GROUPS			
FLOOR	UNIT	EXISTING	PROPOSED
BASEMENT	UNIT 1	BUSINESS	RESIDENTIAL 1 BEDROOM
1ST FLOOR	UNIT 2	BUSINESS	RESIDENTIAL 2 BEDROOM
1ST FLOOR	UNIT 3	BUSINESS	BUSINESS (NO CHANGE)
2ND FLOOR	UNIT 4	RESIDENTIAL 1 BEDROOM	RESIDENTIAL 1 BEDROOM (NO CHANGE)
2ND FLOOR	UNIT 5	RESIDENTIAL 1 BEDROOM	RESIDENTIAL 1 BEDROOM (NO CHANGE)
		2 BEDROOMS	5 BEDROOMS

3 SECOND FLOOR PLAN
1/8" = 1'-0"

1 BASEMENT PLAN
1/8" = 1'-0"



Stamp:

400 MASS AVE ARLINGTON

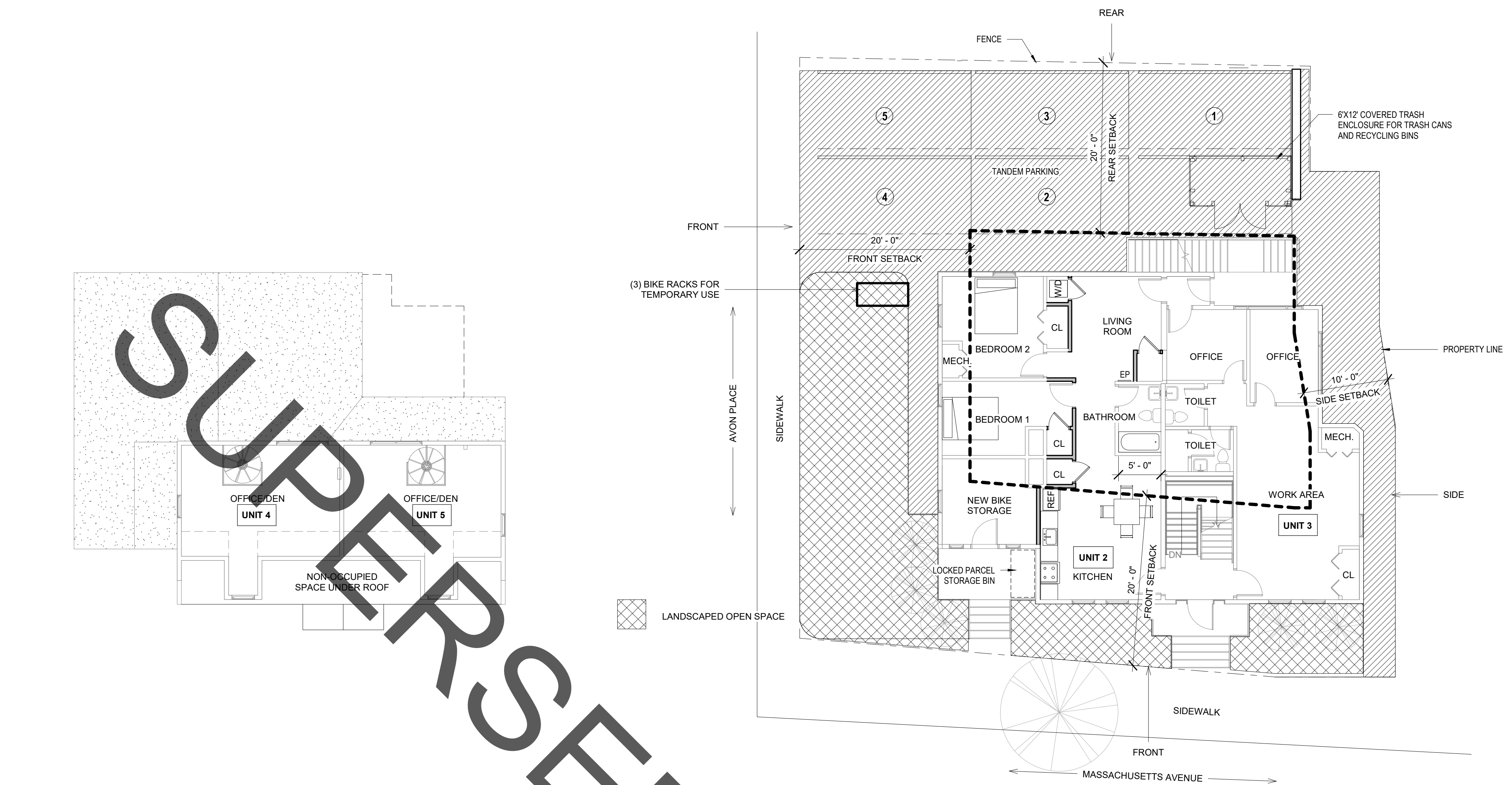
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PROPOSED FLOOR PLANS	

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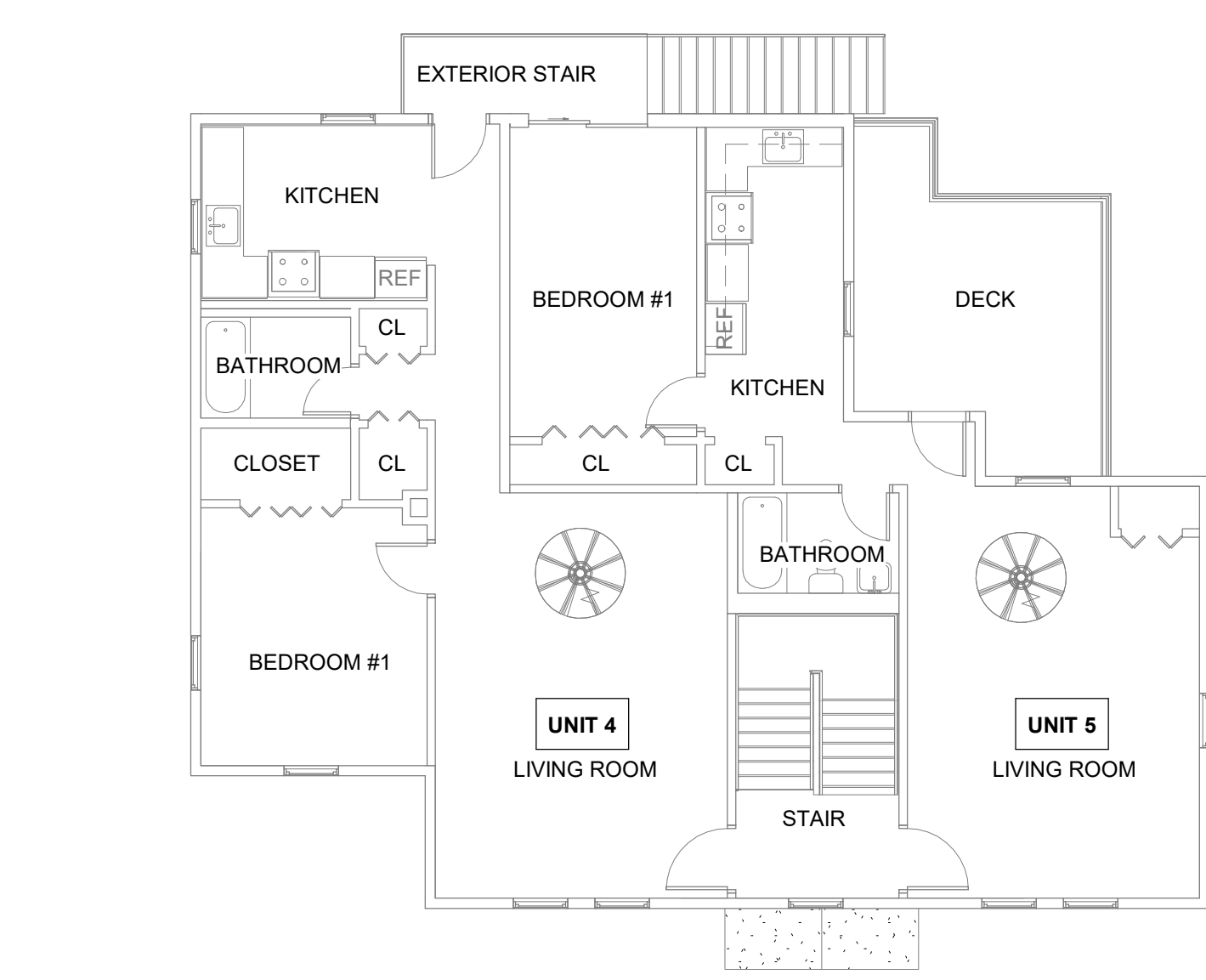
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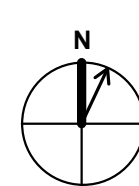
A101



2 PROPOSED FIRST FLOOR PLAN + SITE
W/ZONING INFORMATION
1/8" = 1'-0"



1 BASEMENT PLAN -PROPOSED
1/8" = 1'-0"



ROBERT J. ANNESE

ATTORNEY AT LAW

December 16, 2020

VIA E-MAIL

Jennifer Raitt, Director
Department of Planning and Community Development
Town of Arlington
730 Massachusetts Avenue
Arlington, MA 02476

RE: 400-402 Massachusetts Avenue

Dear Ms. Raitt:

I am sending along a supplement to the Application for Environmental Review filed in behalf of 400-402 Mass Avenue, LLC, following the ARB Hearing which occurred on December 7, 2020.

During the course of the hearing there was discussion with respect to comments made by Members of the ARB that one of the four (4) residential units proposed by Petitioner be converted to an office unit.

Other comments were made relating to providing a different trash enclosure area as well as moving the interior permanent bicycle storage area which is proposed in a lower level in the building to an upper street level.

Comments were also made with respect to the parking configuration at the site which involves vehicles backing out on to the street with an indication that backing out on to the street was not an approach that was permissible or acceptable.

The architect for the Petitioner, Ken Feyl has drafted modified plans which I am sending to the Board at this time showing five (5) parking spaces instead of six (6) as originally proposed with one (1) of the parking spaces being used for a 6' x 12' covered trash enclosure, an exterior three (3) bicycle rack for short-term bicycle parking as well as an interior permanent bicycle storage area, once again at the lower level as originally proposed by Petitioner.

Jennifer Raitt, Director
Department of Planning and Community Development
Town of Arlington
December 16, 2020
Page 2

I am also submitting a LEED check list with a narrative provided by the Petitioner's architect.

It is important for the Members of the ARB to be aware that the building at 400-402 Massachusetts Avenue has existed for many years and has been occupied by tenants, whether residential or commercial for many years with the occupants of the building of necessity backing out on to the street and using a tandem parking approach in the parking lot at the building.

The building has certainly existed prior to passage of the Amended Zoning Bylaw in 1975 and, in fact, was originally built in 1799.

Petitioner's proposal does not involve exterior changes of any kind to the building with the result that the exterior appearance of the building would not change with regard to Petitioner's proposal.

The building is located on a small lot which contains 4,756 square feet and is unlike many other development properties in the Town where the lots are much larger with the result that modifications to a building could be made on a lot containing much more land area than Petitioner's lot given those owners more land area to work with in redesigning the exterior of a building.

With respect to bicycle parking a current residential tenant carries their bicycle up to the second floor of the building for storage when the bicycle is not in use.

Petitioner's current submittal proposes that the long-term bicycle storage area remain at the lower level because of the difficulty and significant changes which would have to occur within the building to have the bicycle storage area at street level given the size of the lot and the interior configuration of the building.

Carrying a bicycle down to a lower level in the building would certainly be no more difficult and perhaps easier than carrying a bicycle up to the second floor within the building.

Jennifer Raitt, Director
Department of Planning and Community Development
Town of Arlington
December 16, 2020
Page 3

The current plans also show a three (3) bicycle short-term bicycle rack located outside of the building.

The trash enclosure area has been moved from the building into a parking space as mentioned previously so that the trash area is some distance from the building itself.

Petitioner cannot change the parking arrangement at the site with respect to tandem parking and backing out on to the street because of the physical characteristics of the lot and it is important to note that this situation, i.e., tandem parking and backing out on to the street has existed at the property for many years and exists in many areas of East Arlington.

In summary, I would request that the Members of the Board who made comments with regard to not allowing the fourth (4th) residential unit, but rather having that unit become an office unit reassess their position in light of the present and future circumstances relating to how employees and employers are conducting their business affairs since the pandemic began, six (6) months or so ago.

Many employees are now working from home because of the pandemic and in many instances those employees will never go back to a physical building with respect to conducting their work activities.

Indeed, an article appeared in the *New York Times* on December 11, 2020 which discusses the fact that even in Manhattan once the pandemic becomes more under control it is likely that many employees will not go back to their former offices to conduct their work activities but will continue to do so offsite through Zoom approaches.

To quote an individual representing a company which controls 26 million square feet of city office space in the *New York Times*’ article, “Anyone that thinks the way that people used the workplace in the past isn’t going to change post-pandemic is fooling themselves”. See New York Times articles dated December 11, 2020)

Jennifer Raitt, Director
Department of Planning and Community Development
Town of Arlington
December 16, 2020
Page 4

Petitioner has obtained a letter from a real estate brokerage firm that specializes in commercial real estate leasing and investment in the Greater Boston and Southern New Hampshire area i.e., Land and Sea Real Estate, Inc. with the Principal of that firm being Demetrius Spaneas.

He indicates within the substance of that letter dated December 14, 2020 in part as follows:

“Commercial real estate, and office in particular, is going through major changes—and reevaluations—at this time. Office as we know has changed. This is due to the advancement of technology and the relationship between management and their workers. The ability to work remotely has become a major factor and incentive to attracting a strong, dynamic, and tech-savvy workforce. The need for traditional office has diminished greatly over the last few years.”

“We have seen the impact that Coronavirus has had on traditional office space. The pandemic has exacerbated the above trend greatly. Offices are averaging less than 20% occupied, and we don't see this trend changing any time soon, even after the pandemic is but a memory. Companies, both large and small, have realized that they no longer need a physical presence. Work forces that have been remote these past months will, in all likelihood, stay remote. It is both cost efficient for the companies, and logistically easier for many workers. Many office buildings are now begin repurposed, mainly for residential.”

This information is being furnished to the Members of the ARB to show why the Pasciuto Family which owns many properties in the Town, and which has and continues to deal with vacancies in commercial units has filed a Special Permit Request to have four (4) residential units rather than three (3) approved so that they do not wind up with another vacant commercial unit.

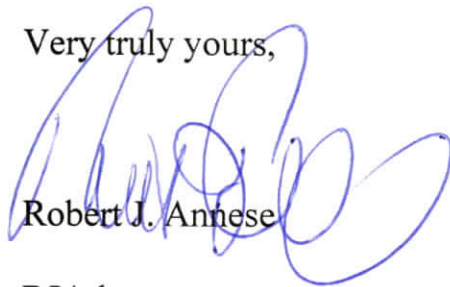
The Pasciuto family is certainly willing to invest money to perform work within the 400-402 Mass Ave building as with their other properties in town but they are not interested in doing so if the space they will be creating will not be economically productive for them given the change in the utilization

Jennifer Raitt, Director
Department of Planning and Community Development
Town of Arlington
December 16, 2020
Page 5

of commercial space which has occurred and will as the above information indicates continue to occur into the future.

Consequently, the Petitioner is requesting that its request for Special Permit be approved, as modified in this supplemental submission.

Very truly yours,



Robert J. Annese

RJA:lm

Enclosures



400 MASS AVE – LEED CONSIDERATIONS

The improvements at 400-402 Massachusetts Avenue will look to incorporate the items below per 'LEED_v4.1_Residential_BD_C_Multifamily_Homes' to support the sustainable building practices goal in Arlington, MA.

LOW EMITTING MATERIALS

These materials are to be integrated to reduce concentrations of chemical contaminants that can damage air quality, human health, productivity, and the environment. Some of these building materials are as follows:

-Paints and Coatings

At least 75% of all paints and coatings, by volume or surface area, are to meet the VOC emissions evaluation AND 100% meet the VOC content evaluation.

-Adhesives and Sealants

At least 75% of all adhesives and sealants, by volume or surface area, are to meet the VOC emissions evaluation AND 100% meet the VOC content evaluation

-Flooring

At least 90% of all flooring materials (carpet, ceramic, vinyl, rubber, engineered, solid wood, laminates), by cost or surface area, is to meet the VOC emissions evaluation OR inherently non emitting sources criteria, OR salvaged and reused materials criteria.

INDOOR AIR QUALITY

The LEED objective is to establish better quality indoor air in the building after construction and during occupancy. Before each dwelling unit is occupied, air cleaning, a flush-out with a recirculating HEPA Air Filtration Device, and air testing in the unit to Demonstrate that 10 micron particles do not exceed 8 µg/m³ should be performed.

ACCESS TO QUALITY TRANSIT

Functional entry is located within ¼ mile walking distance to existing bus stop.

ENVIRONMENTALLY PREFERABLE PRODUCTS

At least 70% of each new compliant building component (floor covering, insulation, framing/structural systems, drywall, doors cabinets, countertops and/or interior trim), by weight or volume, will aim meet one of the requirements below:

The product contains at least 25% reclaimed material, including salvaged, refurbished, or reused materials. For renovation projects, existing components are considered reclaimed. Wood by-products can be counted as reclaimed material. These include items from secondary manufacturers; felled, diseased, or dead trees from urban or suburban areas; orchard trees that are unproductive and cut for replacement; and wood recovered from landfills or water bodies.

The product contains at least 25% postconsumer or 50% pre consumer content.



Wood products must be Forest Stewardship Council (FSC) Certified, or USGBC-approved equivalent.

Bio-based materials. Bio-based products must meet the Sustainable Agriculture Network's Sustainable Agriculture Standard. Bio-based raw materials must be tested using ASTM Test Method D6866 and be legally harvested, as defined by the exporting and receiving country. Exclude hide products, such as leather and other animal skin material.

Concrete that consists of at least 30% fly ash or slag used as a cement substitute.

Extended producer responsibility. Products purchased from a manufacturer (producer) that participates in an extended producer responsibility program or is directly responsible for extended producer responsibility.

WATER USE REDUCTION

The project will seek to reduce aggregate water consumption by 20% from the baseline for each new fixture (toilets, showerheads, dishwashers, etc.)

MINIMUM ENERGY PERFORMANCE

For new dwelling units, heating and cooling systems will look to meet the following equipment selection sizing guidelines, or next nominal size:

Cooling Equipment:

Single-Speed Compressor: 90-130% of total heat gain

Two-Speed Compressor: 90-140% of total heat gain

Variable-Speed Compressor: 90-160% of total heat gain

Heating Equipment:

100-140% of total heat loss AND energy performance compliance.

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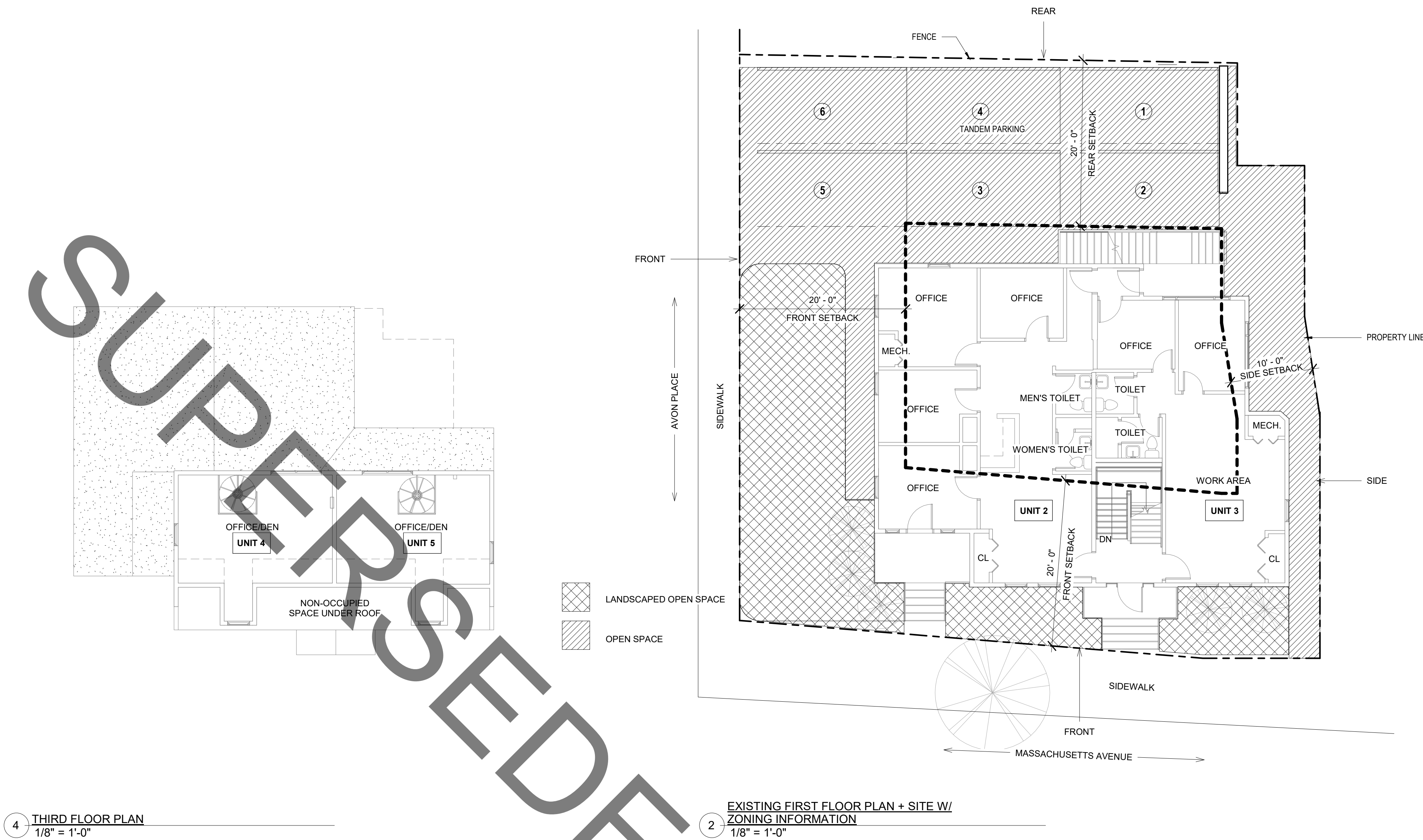
EXISTING FLOOR PLANS

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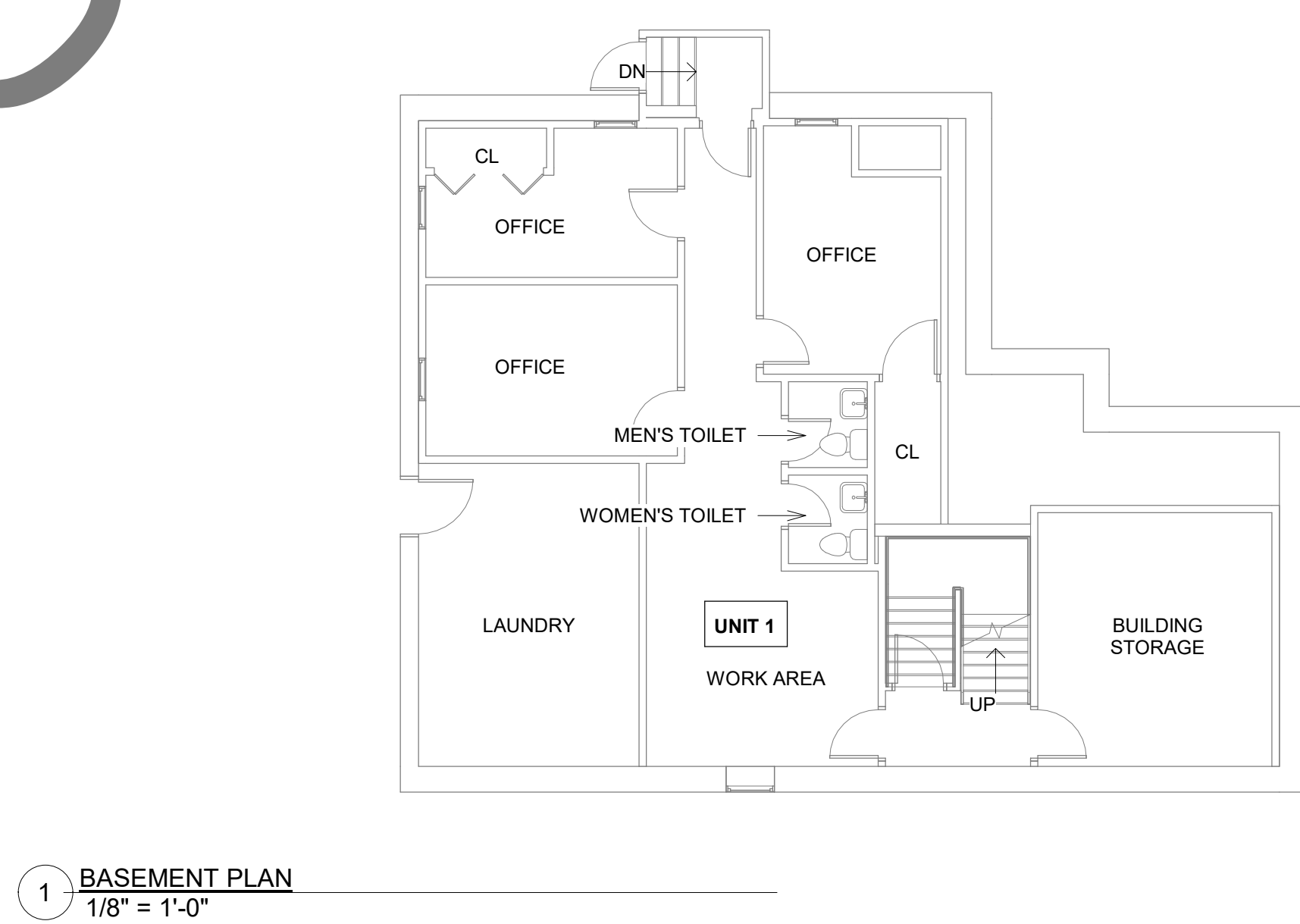
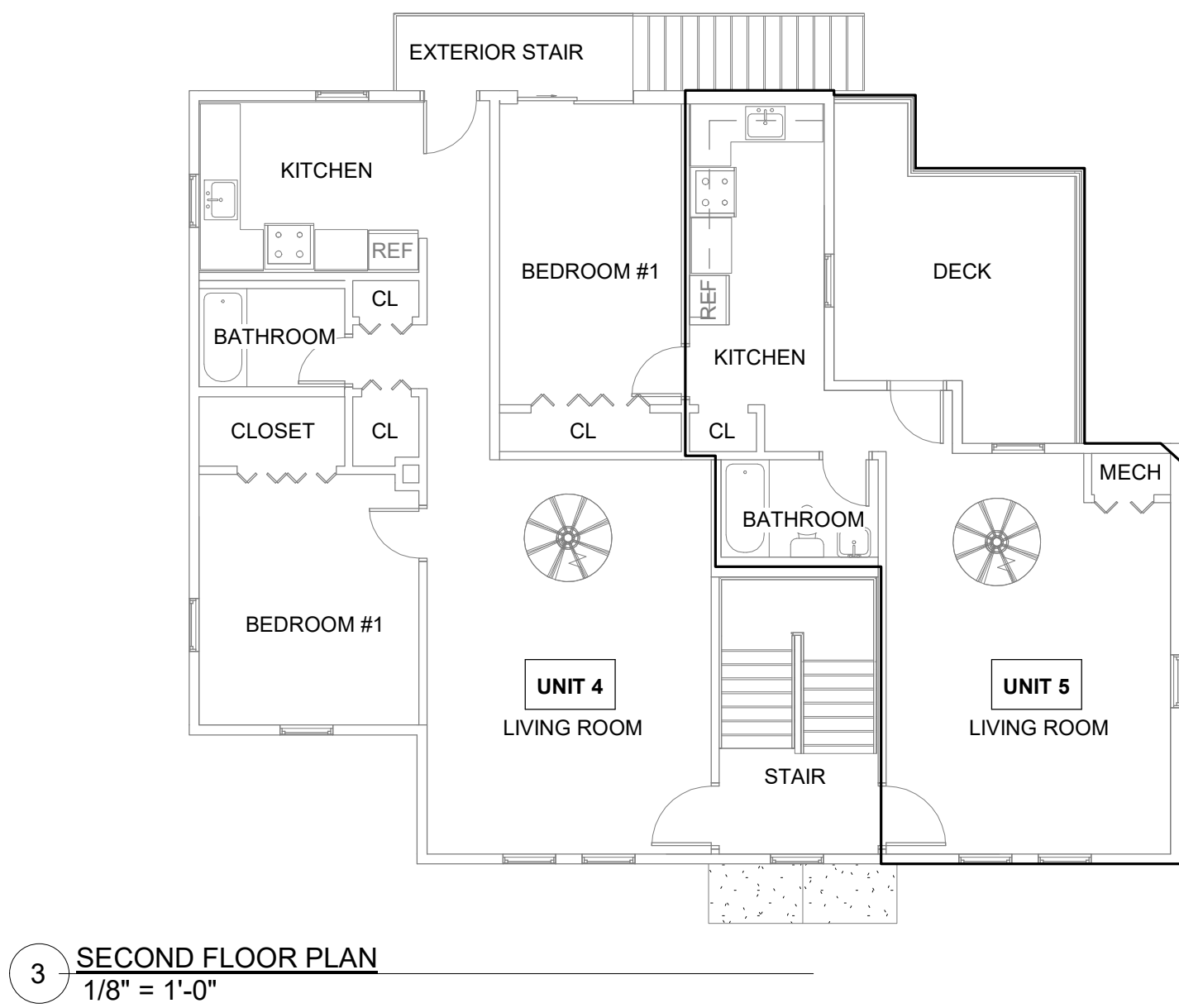
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SUMMARY USE GROUPS			
FLOOR	UNIT	EXISTING	PROPOSED
BASEMENT	UNIT 1	BUSINESS	RESIDENTIAL 1 BEDROOM
1ST FLOOR	UNIT 2	BUSINESS	RESIDENTIAL 2 BEDROOM
1ST FLOOR	UNIT 3	BUSINESS	BUSINESS (NO CHANGE)
2ND FLOOR	UNIT 4	RESIDENTIAL 1 BEDROOM	RESIDENTIAL 1 BEDROOM (NO CHANGE)
2ND FLOOR	UNIT 5	RESIDENTIAL 1 BEDROOM	RESIDENTIAL 1 BEDROOM (NO CHANGE)
		2 BEDROOMS	5 BEDROOMS



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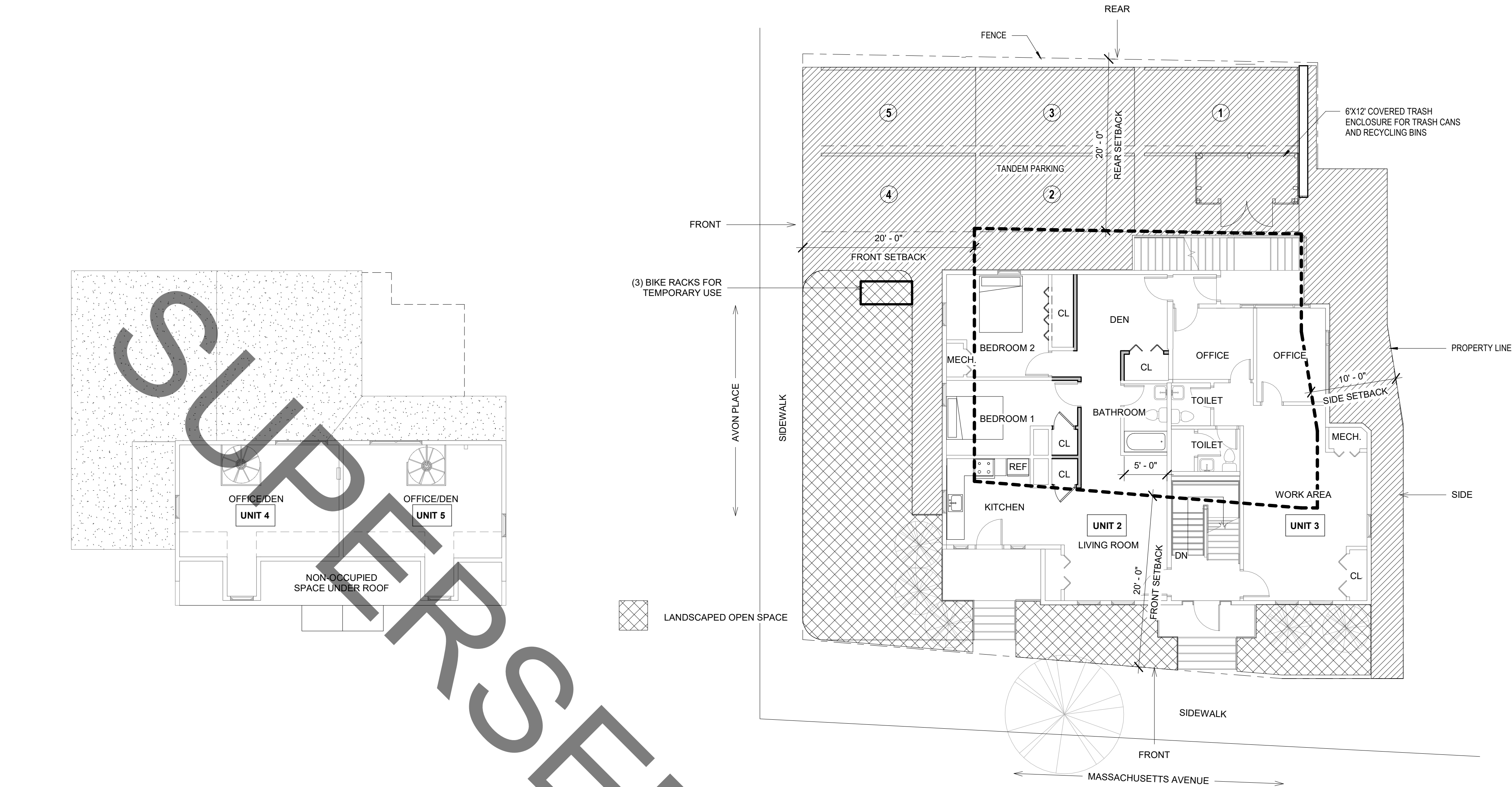
PROPOSED FLOOR PLANS

prepared for:
location: Approver

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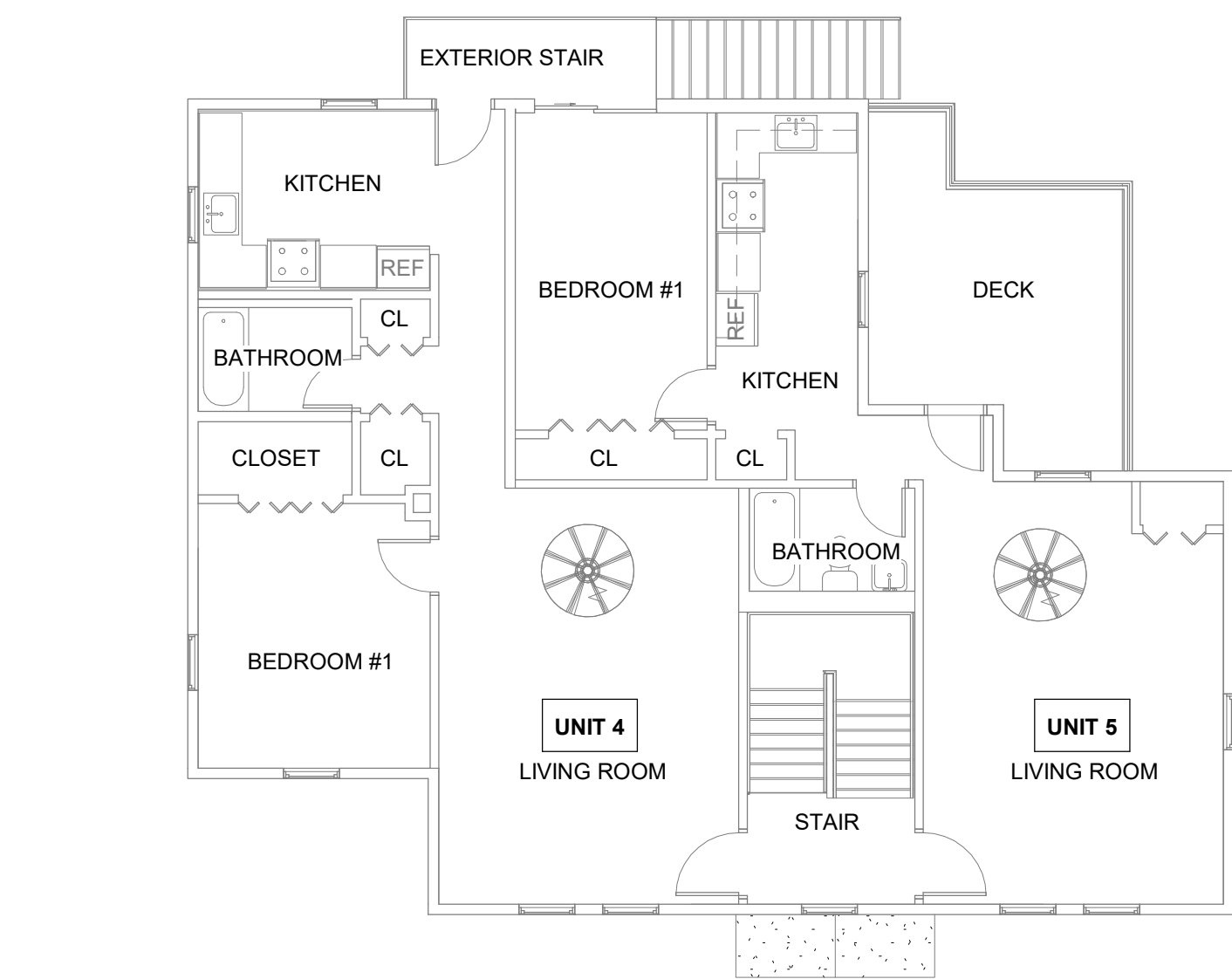
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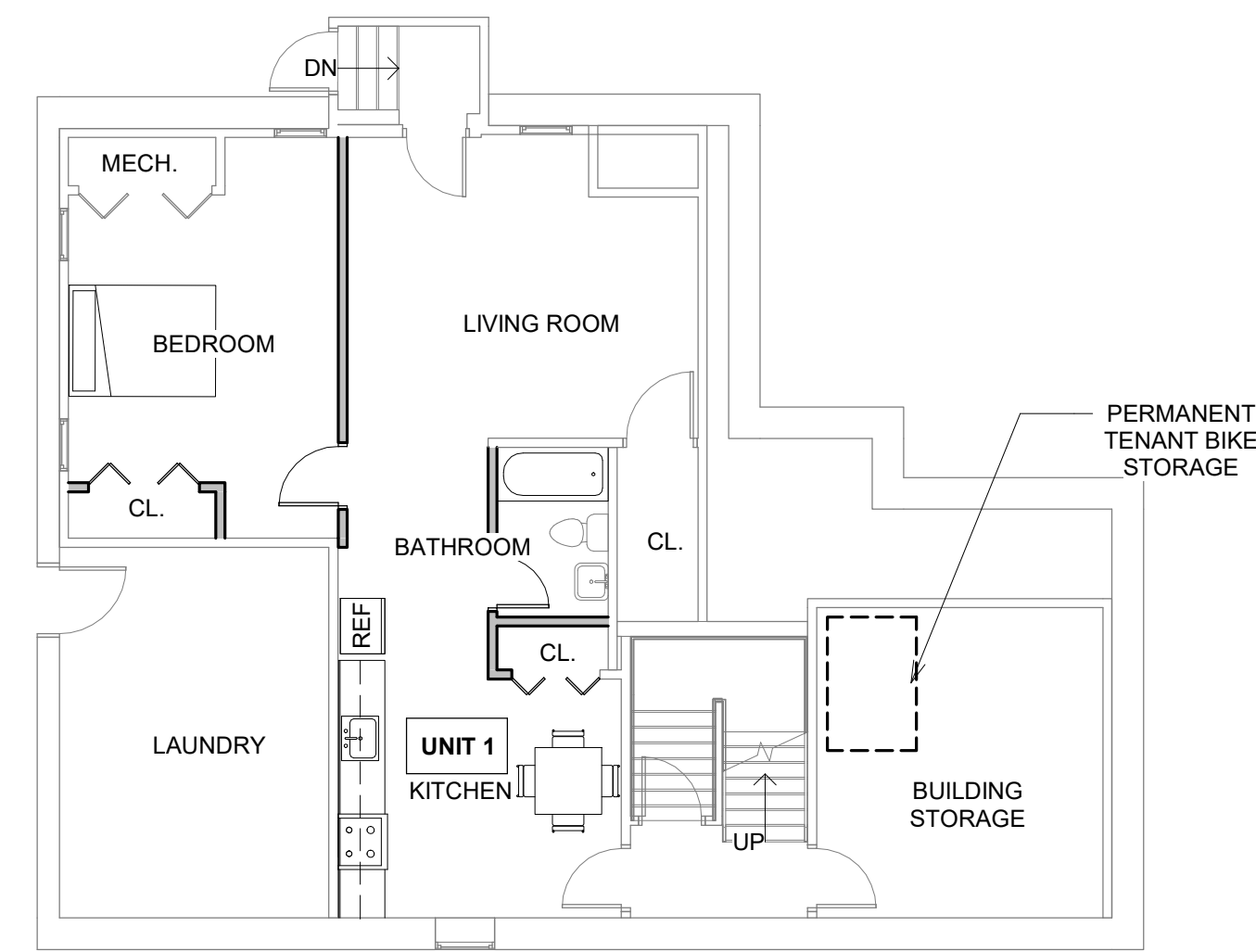


4 THIRD FLOOR PLAN (NO CHANGES)
1/8" = 1'-0"

2 PROPOSED FIRST FLOOR PLAN + SITE
W/ZONING INFORMATION
1/8" = 1'-0"



3 SECOND FLOOR PLAN (NO CHANGES)
1/8" = 1'-0"



1 BASEMENT PLAN -PROPOSED
1/8" = 1'-0"



LEED v4 for BD+C: Core and Shell

Project Checklist

Project Name: 400 Mass Ave Apartments - Arlington, MA

Date: 12/11/2020

Y ? N

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Credit	Integrative Process	1
--------------------------	--------------------------	--------------------------	--------	---------------------	---

0	2	0	Location and Transportation		20
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<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Credit	Surrounding Density and Diverse Uses	6
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Credit	Access to Quality Transit	6
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Credit	Bicycle Facilities	1
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<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Credit	Green Vehicles	1

0	0	0	Sustainable Sites		11
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Prereq	Construction Activity Pollution Prevention	Required
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Credit	Site Assessment	1
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<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Credit	Open Space	1
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Credit	Rainwater Management	3
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Credit	Heat Island Reduction	2
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Credit	Light Pollution Reduction	1
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Credit	Tenant Design and Construction Guidelines	1

0	1	0	Water Efficiency		11
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Prereq	Outdoor Water Use Reduction	Required
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Prereq	Indoor Water Use Reduction	Required
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Prereq	Building-Level Water Metering	Required
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Credit	Outdoor Water Use Reduction	2
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Credit	Indoor Water Use Reduction	6
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Credit	Cooling Tower Water Use	2
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Credit	Water Metering	1

0	0	0	Energy and Atmosphere		33
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Prereq	Fundamental Commissioning and Verification	Required
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Prereq	Minimum Energy Performance	Required
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Prereq	Building-Level Energy Metering	Required
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Prereq	Fundamental Refrigerant Management	Required
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Credit	Enhanced Commissioning	6
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0	3	0	Materials and Resources		14
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0	2	0	Indoor Environmental Quality		10
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Prereq	Minimum Indoor Air Quality Performance	Required
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Prereq	Environmental Tobacco Smoke Control	Required
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Credit	Enhanced Indoor Air Quality Strategies	2
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Credit	Low-Emitting Materials	3
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0	0	0	Innovation		6
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0	0	0	Regional Priority		4
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<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Credit	Regional Priority: Specific Credit	1
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Credit	Regional Priority: Specific Credit	1
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Credit	Regional Priority: Specific Credit	1

0	8	0	TOTALS		Possible Points: 110
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Certified: 40 to 49 points, Silver: 50 to 59 points, Gold: 60 to 79 points, Platinum: 80 to 110



December 14, 2020

Arlington Redevelopment Board
730 Massachusetts Ave, Annex
Arlington, MA 02476

To Whom it may concern:

My name is Demetrius Spaneas and I am the President of Land and Sea Real Estate, Inc. We are a boutique brokerage that specializes in commercial real estate leasing and investment in Greater Boston and Southern NH.

I have been asked by one of the large commercial property owners in Arlington, the Pasciuto family, to briefly give my thoughts on the state of office in the Boston suburbs, and office vs residential.

Commercial real estate, and office in particular, is going through major changes—and reevaluations—at this time. Office as we know has changed. This is due to the advancement of technology and the relationship between management and their workers. The ability to work remotely has become a major factor and incentive to attracting a strong, dynamic and tech-savvy workforce. The need for traditional office has diminished greatly over the last few years.

We have seen the impact that Coronavirus has had on traditional office space. The pandemic has exacerbated the above trend greatly. Offices are averaging less than 20% occupied, and we don't see this trend changing any time soon, even after the pandemic is but a memory. Companies, both large and small, have realized that they no longer need a physical presence. Work forces that have been remote these past months will, in all likelihood, stay remote. It is both cost

One Main Street
Suite 306
Andover, MA 01810

335 of 435



efficient for the companies, and logistically easier for many workers. Many office buildings are now being repurposed, mainly for residential.

The great issue in Massachusetts is the housing crisis. After the housing crash in 2008, there were 40% less builders working nationally, which meant 40% less new housing. The issue in Massachusetts is much worse as the lack of buildable land combined with state regulations has cut the housing inventory down significantly. Before 2008, the average age of the first-time home buyer was 27; now, it is up into the mid-30's. This means that people can't afford housing—the prices have skyrocketed for lack of inventory—and people are renting longer, which is putting major strain on the apartment market. Add this to the fact that the pandemic has interrupted, if not downright cancelled, numerous apartment and housing developments, and the housing crisis escalates. Before the pandemic, there was a projected 2 million unit deficit of housing. I can only imagine what the numbers will look like this next year. The fact that Arlington has a housing waitlist of over 400 should give some indication.

In sum, I believe in my professional opinion that office space in an urban/suburban market such as Arlington would be a wasted (un-needed) opportunity and that residential units would help to alleviate the housing crisis and be of far better service to residents within the local economy.

Please feel free to contact me, at your convenience, for further commentary.

Sincerely yours,

Demetrius Spaneas

President, Land and Sea Real Estate, Inc.

In California, countless redwoods, giant sequoias and Joshua trees have perished in wildfires this year. The blackened wreckage sends a clear message: These trees are in the fight of their lives.



They Are Among the World's Oldest Living Things. The Climate Crisis Is Killing Them.

By JOHN BRANCH | Photographs by MAX WHITTAKER | Page A21

Left Is Pushing Biden to Slash Student Debts

This article is by Erica L. Green, like Broadwater and Stacy Cowley.

WASHINGTON — President-elect Joseph R. Biden Jr. is facing pressure from congressional Democrats to cancel student loan debt on a vast scale, quickly and by executive action, a campaign that will be one of the first tests of his relationship with the liberal wing of his party.

Mr. Biden has endorsed canceling \$10,000 in federal student debt per borrower through legislation, and insisted that chipping away at the \$1.7 trillion in loan debt held by more than 43 million borrowers is integral to his economic plan. But Democratic leaders, backed by the party's left flank, are pressing for up to \$50,000 of debt relief per borrower, executed on Day 1 of his presidency.

More than 200 organizations — including the American Federation of Teachers, the N.A.A.C.P. and others that were integral to his campaign — have joined the push.

The Education Department is effectively the country's largest consumer bank and the primary lender, since 2010, for higher education. It owns student loans totaling \$1.4 trillion, so forgiveness of some of that debt would be a rapid injection of cash into the pockets of many people suffering from the economic effects of the pandemic.

"There are a lot of people who came out to vote in this election who frankly did it as their last shot at seeing whether the government can really work for them," said Representative Pramila Jayapal, Democrat of Washington and the chairwoman of the Congressional Progressive Caucus. "If we don't deliver quick relief, it's going to be very difficult to get

Continued on Page A19

Two More Biden Picks

The president-elect chose Su-

Record U.S. Deaths Create a Wave of Devastation

This article is by Sarah Mervosh, Giulio McDonnell Nieto del Rio and Neil MacFarquhar.

DALLAS — Lillian Blancas was a fighter, a proud daughter of immigrants, part of the first generation in her family to attend college and a lawyer in El Paso who was on the brink of fulfilling her dream of becoming a judge.

Instead, Ms. Blancas, 47, died alone in her hospital room this week, just before a runoff election on Saturday in which she was the favorite, becoming part of a grim cascade of Americans who have died from the coronavirus as it rages out of control. More than 3,000 deaths were reported on Wednesday for the first time since the pandemic began.

"We're completely devastated. Heartbroken. We can't find a reason," said her sister, Gabriela Tie-

Daily Toll Tops 3,000, but Experts Warn Worst Is to Come

mann, who recalled staring through the glass doors of Ms. Blancas's hospital room, wishing that she could stroke her hair one last time.

The new daily death record — 3,055 individuals who blew out birthday candles, made mistakes, laughed and cried before succumbing to the virus — far surpassed the spring peak of 2,752 deaths on April 15 and amounted to a stunning embodiment of the pandemic's toll. In a single day, the country, numbed and divided, lost more Americans to the coronavirus than were killed in the Sept. 11

terror attacks or the attack on Pearl Harbor.

Catherine Troisi, an infectious-disease epidemiologist at the UTHealth School of Public Health in Houston, said she had cried watching the faces of coronavirus victims on "PBS NewsHour" and expected the death toll to accelerate, in part because current numbers likely do not reflect infections from Thanksgiving gatherings.

"The worst is yet to come in the next week or two or three," she said. "What happens after that is going to depend on our behavior today."

The most recent deaths come as the country is recording more new cases and hospitalizations than ever before. More than 290,000 people have died in the United States during the pandemic.

With a current average of more than 2,200 deaths per day, Continued on Page A8



ADAM ALTMAN/AGENCE FRANCE PRESSE — GETTY IMAGES

PFIZER'S VACCINE CLEARS A BIG STEP TOWARD APPROVAL

F.D.A. Authorization Is Expected Soon,
as Caseloads Continue to Soar

This article is by Katie Thomas, Noah Welland and Sharon LaFraniere.

Pfizer's Covid-19 vaccine passed a critical milestone on Thursday when a panel of experts formally recommended that the Food and Drug Administration authorize the vaccine. The agency is likely to do so within days, giving health care workers and nursing home residents first priority to begin receiving the first shots early next week.

The F.D.A.'s vaccine advisory panel, composed of independent scientific experts, infectious disease doctors and statisticians, voted 17 to 4, with one member abstaining, in favor of emergency authorization for people 16 and older. With rare exceptions, the F.D.A. follows the advice of its advisory panels.

With this formal blessing, the nation may finally begin to slow the spread of the virus just as infections and deaths surge, reaching a record of more than 3,000 daily deaths on Wednesday. The F.D.A. is expected to grant an emergency use authorization on Saturday, according to people familiar with the agency's planning, though they cautioned that last-minute legal or bureaucratic re-

quirements could push the announcement to Sunday or later.

The initial shipment of 6.4 million doses will leave warehouses within 24 hours of being cleared by the F.D.A., according to federal officials. About half of those doses will be sent across the country, and the other half will be reserved for the initial recipients to receive their second dose about three weeks later.

The arrival of the first vaccines is the beginning of a complex, monthlong distribution plan coordinated by federal and local health authorities, as well as large hospitals and pharmacy chains, that if successful, will help return a grieving and economically depressed country back to some semblance of normal, maybe by summer.

"With the high efficacy and good safety profile shown for our vaccine, and the pandemic essentially out of control, vaccine introduction is an urgent need," Kathrin Jansen, a senior vice president and the head of vaccine research and development at Pfizer, said at the meeting.

The vote caps a whirlwind year for Pfizer and its German partner for Pfizer and its German partner Continued on Page A8

As Oil Demand Declines, Exxon Is at Crossroads

By CLIFFORD KRAUSS

HOUSTON — Over the last 135 years, Exxon Mobil has survived hostile governments, ill-fated investments and the catastrophic Exxon Valdez oil spill. Through it all, the oil company made bundles of money.

But suddenly Exxon is slipping badly, its long latent vulnerabilities exposed by the coronavirus pandemic and technological shifts that promise to transform the energy world because of growing concerns about climate change.

The company, for decades one of the most profitable and valuable American businesses, lost \$2.4 billion in the first nine months of the year, and its share price is down about 35 percent this year. In August, Exxon was tossed out of the Dow Jones industrial average, replaced by Salesforce, a software company. The change symbolized the passing of the baton from Big Oil to an increasingly dominant technology industry.

"Is Exxon a survivor?" asked Jennifer Rowland, an energy analyst at Edward Jones. "Of course they are, with great global assets, great people, great technical know-how. But the question really is, can they thrive? There is a lot of skepticism about that right now."

Exxon is under growing pressure from investors. D.E. Shaw, a longtime shareholder that recently increased its stake in Exxon, is demanding that the company cut costs and improve its environmental record, according to a person briefed on the matter. Another activist investor, Engine No. 1, is pushing for similar changes in an effort backed by the California State Teachers Retirement System and the Church of England. And on Wednesday, the New York State comptroller, Thomas P. DiNapoli, said the state's \$226 billion pension fund would sell shares of oil and gas companies that did not move fast enough to reduce emissions.

Of course, every oil company is struggling with the collapse in en-



A shuttered business in Midtown, where offices lay vacant.

Hard Questions For a Midtown Left Withering

By MATTHEW HAAG
and DANA RUBINSTEIN

The pandemic is pummeling New York City's commercial real estate industry, one of its main economic engines, threatening the future of the nation's largest business districts as well as the city's finances.

The damage caused by the emptying of office towers and the permanent closure of many stores is far more significant than many experts had predicted early in the crisis.

The powerful real estate industry is so concerned that the shifts in workplace culture caused by the outbreak will become long-lasting that it is promoting a striking proposal: to turn more than one million square feet of Manhattan office space into housing.

Nearly 14 percent of office space in Midtown Manhattan is vacant, the highest rate since 2009. On Madison Avenue in Midtown, one of the most affluent retail stretches in the country, more than a third of all storefronts are empty, double the rate from five years ago.

The collapse of commercial real estate is another major burden for New York, since the industry provides a significant portion of the city's tax revenues.

Filings to erect new buildings in the city, a key indicator of industry

Tracking an Outbreak New York City

A DISTRICT TRANSFORMED

A Midtown Left Reeling Considers Converting Offices Into Apartments

From Page A1

confidence, have dropped 22 percent this year to 1,187, the lowest number since 2010.

As of late October, only 10 percent of Manhattan's one million office workers were reporting to the office, according to a survey by the Partnership for New York City, an influential business group.

And this already bleak picture could even get worse, real estate experts and industry executives said.

"It would probably be fair to say we haven't hit bottom yet," said James Whelan, president of the Real Estate Board of New York.

It does not appear that the major commercial landlords in the city are facing financial collapse, but the stocks of the ones that are publicly traded are down sharply since March.

The fallout from the crisis can be seen in a rising tide of litigation between landlords and tenants, even at some of New York's most gilded addresses.

At the Shops at Columbus Circle, a luxury mall overlooking Central Park, the developer has accused a group of high-end retailers, including Michael Kors and Hugo Boss, of skipping out on more than \$7 million in rent and fees. On Fifth Avenue, the Italian designer Valentino has sued its landlord to free itself from a lease of nearly \$1.6 million per month.

New York City's finances — money to pick up trash, repair parks and police streets — rely on the health of the industry.

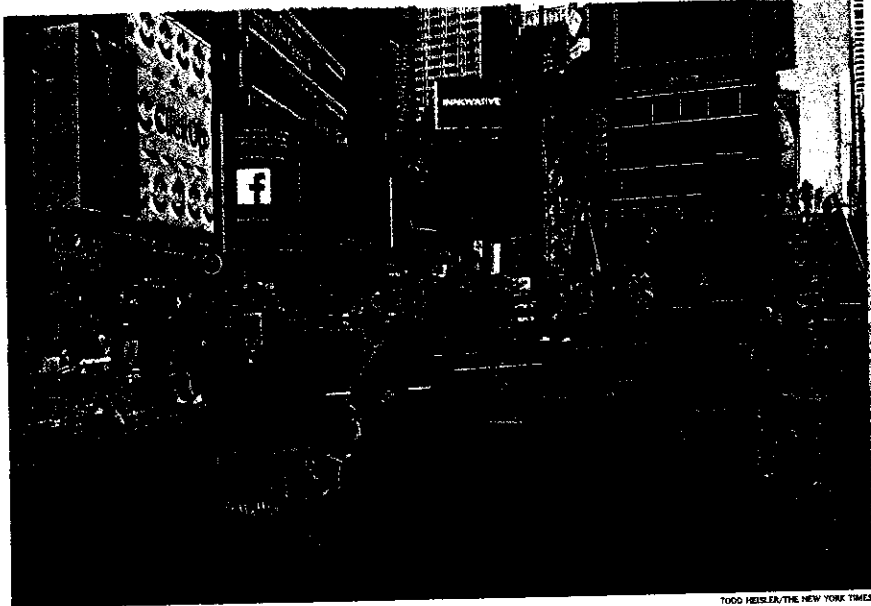
Property taxes represent the largest source of city revenue, and commercial property accounts for the largest share of that overall levy, 41 percent, according to Thomas P. DiNapoli, the state comptroller.

Commercial property sales have plummeted by nearly 50 percent through October, according to Rahul Jain, a deputy state comptroller.

A weakened commercial real estate market will make it "much harder for businesses and the economy to get back to normal," Mr. DiNapoli said.

The lack of workers is having a ripple effect on rents. Across Manhattan's retail corridors, asking commercial rents have dropped nearly 13 percent from last year, according to CBRE, a commercial real estate firm. The steepest declines are in areas dominated by office buildings, including Times Square and Grand Central Terminal, and shopping destinations like SoHo.

The industry's troubles, initially sparked by the exodus of office workers during the state's stay-at-home orders in the spring, have persisted as many commuters



Just 10 percent of Manhattan's one million office workers are reporting to the office. Rents in Times Square have declined steeply.

have settled into long-term or permanent remote-work arrangements. Tourists have also largely disappeared.

As a result, tensions are growing between the city's powerful landlords and some of their equally powerful tenants. Property owners have accused blue-chip companies of using the pandemic to withhold rent they can afford, while tenants have portrayed landlords as greedy and unwilling to acknowledge economic reality.

"It's not easy, but we need to make sacrifices, and landlords need to make sacrifices," said Lawrence Berger, chairman of Fanzlids Holdings, which owns Lids, an athletic headwear store whose flagship shop is in Times Square.

The shop has been sued over more than \$511,000 in unpaid rent and charges at four other Manhattan stores that were closed for months at a time.

"The amazing thing to us is that in New York, they're going after rent for times when we weren't allowed to be open," Mr. Berger said. "We have worked out deals with our landlords across the country except in New York City."

Landlords like Related, which owns the Shops at Columbus Circle and has sued five of its tenants

say, they have their own financial obligations and tenants that can afford rent should pay.

The litigation does not capture the behind-the-scenes, high-stakes negotiations that have led to resolutions without resorting to court, said William H. Mack, a commercial lawyer at the firm Davidoff Hatcher & Citron in New York.

Mr. Mack has been hired by Hugo Boss in its effort to reduce or void its lease at Columbus Circle. "This is 80 to 90 percent of what I've been doing since March and April," he said.

At the Real Estate Board of New York, whose members include nearly every major landlord and developer in New York, the prospect of systemic changes in work habits looms large.

"Anyone that thinks the way that people used the workplace in the past isn't going to change post-pandemic is fooling themselves," said Scott Rechler, chair of the Regional Plan Association and the chief executive of RXR Realty, which controls 26 million square feet of city office space.

Employers have discovered that productivity does not necessarily suffer in the absence of shared work space and that smaller office footprints and more lenient work-from-home policies

might make lasting economic sense.

As a result, the landlord group is proposing that the city and state allow developers to more easily convert Manhattan and borough offices into residences.

Roughly 140 million of Manhattan's 400 million square feet of office space is considered to be of average quality or is in older and less luxurious buildings, according to Cushman and Wakefield, a real estate brokerage. The real estate board puts the citywide supply of those buildings at roughly 210 million square feet.

The real estate group estimates that converting even just 10 percent of that office space to residential would create 14,000 apartments citywide, including as many as 10,000 in Manhattan — a significant amount in a city routinely short of enough housing, especially affordable homes.

Changes to zoning rules needed for any conversions would require that some portion of new housing be set aside as affordable, the board said.

Mark A. Willis, a senior policy fellow at New York University's Furman Center for Real Estate and Urban Policy, said that before the pandemic, job growth was outpacing housing growth in the city, causing demand to far outstrip

supply and exacerbating the city's persistent housing shortage.

"Facilitating the reuse of buildings to adapt to changes in the economy is, to me, a very smart idea," Mr. Willis said.

Some tenants are using the current downturn — and the resulting lower prices per square foot — to trade up for nicer office space, the board said. That is a boon for higher-end office landlords, but could bode ill for landlords of lower-rated buildings.

Converting office buildings to homes would not only provide a potential financial lifeline to landlords, but would also benefit retailers, the real estate board argues, because the presence of office users during the day and apartment dwellers at night would increase foot traffic.

There is no reason, they argue, for Midtown to retain its status as New York's last predominantly office district, bustling during the day but quieter at night.

They cite the success of Lower Manhattan, which in recent decades has turned from an almost exclusively office district into a vibrant residential neighborhood.

The proposal would require changes to zoning and density rules that would have to be approved by the City Council and the State Legislature and embraced

by the mayor and governor.

Gov. Andrew M. Cuomo's office would say only that he would review the idea.

A spokesman for Mayor Bill de Blasio, who is term-limited and about to begin his last year in office, welcomed the housing proposal.

"City Hall is always looking for sensible, equitable ways to deliver more housing," said the spokesman, Bill Neidhardt.

Still, converting office space to apartments is not easy. Landlords would still need to wait for buildings to empty, which can take years.

The landlord group says the city and state should help expedite conversions by lifting zoning restrictions that require manufacturing in areas like the garment district, changing density requirements that bar apartments and creating new tax breaks for landlords.

Whether city and state elected officials will green-light a measure that would help real estate developers when so many tenants are struggling is an open question.

Several candidates vying to succeed Mr. de Blasio have vowed to refuse campaign donations from real estate developers.

Nor is it clear how many landlords would actually take advantage of the proposed changes.

Jeff Gural, who controls a large portfolio of aging buildings in Manhattan, said he would rather remain in his current line of work.

"We don't have that much vacant space to begin with," Mr. Gural said. "And I believe there will be a demand for the kind of space that we have."

Another possible source for expanding housing would be to convert hotels, many of which have closed as the industry has been decimated by a plunge in tourism and business travel.

That idea is gaining traction among some developers and affordable housing advocates. One group that is trying to shape the 2021 mayoral debate, United for Housing, will argue in an upcoming report that the next mayor should prioritize converting hotels into permanent supportive and affordable housing.

As for the real estate board's proposal, some housing advocates say the pandemic is an opportunity to get creative about easing the city's housing crisis.

"We need a comprehensive plan for how to bring on new housing resources, and the idea of converting office buildings to residential I think has a lot of upside," said Brenda Rosen, the president and chief executive of Breaking Ground, which describes itself as the state's largest provider of supportive housing.

INCREASING ROBBERIES

City Lifeline Comes Under Threat As Crime Sweeps Through Bodegas

By EDGAR SANDOVAL

It was shortly after 6 o'clock one night in late October when Hardik Parekh, the manager of a corner store in Queens, saw a man he recognized as a chronic shoplifter walk in. Not again, he thought.

Mr. Parekh shared a glance with a co-worker, Mohamediyar Tarwala, 26, who quickly moved to escort the man out the door. The mundane moment then took a terrifying turn. The man pulled out a firearm and fatally shot Mr. Tarwala, Mr. Parekh said.

"Later, after the pandemic, I don't know why, but we had people come in and threatening us," Mr. Parekh said, standing near the spot where his friend collapsed. "I

ple have been killed in or just outside the stores, according to the data.

The surge comes as a second wave of the virus hits the city and a steep rise in gun violence that plagued New Yorkers over the summer shows no signs of slowing down. Shootings have doubled this year over last, and murders are up nearly 40 percent.

Fernando Mateo, one of the founders of the United Bodegas of America, an organization that represents about 20,000 bodegas in New York, said the pandemic had provided cover for a small number of criminals to target neigh-

cameras captured the gruesome scene as the gang members stabbed him to death.

Since then, a handful of bodega owners have added safety measures, such as panic buttons, brighter lights and special locks. But Mr. Mateo said the majority of bodega operators cannot afford the added security, which can cost thousands of dollars.

Until recently, Mr. Parekh was one of them. He said he finally invested in a panic button and is adding bright lights at his store, Crossbay Express.

For months he said he looked the other way when he noticed people sneaking out of his shop without paying for items like ice cream, beer or canned goods, be-



Spinelli. "It can quickly escalate. Our advice is to call 911 instead."

On a chilly day in mid-November, the officers made their round in the 44th Precinct, where bodegas, some adorned with colorful street murals, could be seen on a most every street block. The first stop was at a Pioneer Supermarket, a larger than average corner store, where the owner, De Morel, 55, welcomed them with a smile.

Mr. Morel told the officers man he recognized as a regular customer had walked out of the store a recent day without paying for sausages. A store manager had not stopped the man, but I stead gave a surveillance video the police, he said.

"I don't let nothing slide," Mr. Morel said. "You steal at my store I want you arrested."

Rita Clark, a longtime customer who relied on the store for necessities throughout the pandemic. "This young lady is he 24/7," Mr. Morel said, gesturing Ms. Clark with a giggle. "A customers are like my family."

ROBERT J. ANNESE

ATTORNEY AT LAW

November 4, 2020

VIA FEDEX

Jennifer Raitt, Director
Department of Planning and Community Development
Town of Arlington
730 Massachusetts Avenue
Arlington, MA 02476

RE: 400-402 Massachusetts Avenue

Dear Ms. Raitt:

I am sending along an Application for Environmental Review filed in behalf of 400-402 Mas Avenue, LLC, the owner of real estate located at 400-402 Massachusetts Avenue, Arlington.

The Application is being filed in connection with the mixed-use bylaw as the Applicant is proposing to convert an existing building containing two residential dwelling units and three business units into a building containing four residential dwelling units and one business unit.

This Application is being filed both digitally and I am sending three (3) hard copies to your office by FedEx as well.

Would you please let me know the date the Application will be heard by the ARB.

Thank you for your cooperation.

Very truly yours,


Robert J. Annese

Enclosures

TOWN OF ARLINGTON
REDEVELOPMENT BOARD

Application for Special Permit In Accordance with Environmental Design
Review Procedures (Section 3.4 of the Zoning Bylaw)

Docket No. _____

1. Property Address: 400-402 Mass Ave
Name of Record Owner(s): 400-402 Mass Avenue, LLC Phone: 781-646-4911
Address of Owner: 455 Mass Ave, Suite #1, Arlington, MA 02474
Street City, State, ZIP
2. Name of Applicant(s) (if different than above): SAME
Address: _____ Phone: _____
Status Relative to Property (occupant, purchaser, etc.): _____
3. Location of Property: MAP 101.0 BLOCK 0002 LOT 0003.A
Assessor's Block Plan, Block, Lot No.
4. Deed recorded in the Middlesex South District Registry of Deeds, Book 70704, Page 49; or- registered in Land Registration Office, Cert. No _____, Book _____, Page _____
5. Present Use of Property (include # of dwelling units, if any): (2) Residential dwelling units, (3) business units
6. Proposed Use of Property (include # of dwelling units, if any): (4) Residential dwelling units, (1) business unit
7.

Permit applied for in accordance with the following Zoning Bylaw section(s):	<u>Section 6.1.5(c)</u> <u>Section 4.4</u> <u>Section 5.3.16</u>	<u>Transportation demand management relief</u> <u>Environmental Design Review</u> <u>Yards or setbacks for lots adjoining a street or public open space</u> <u>As well as the mixed-use zoning bylaw amendment</u>
--	--	---
8. Please attach a statement that describes your project and provide any additional information that may aid the ARB in understanding the permits you request. Include any reasons that you feel you should be granted the requested permission.

See attached Statement incorporated by reference into the terms of this Application.

(In the statement below, strike out the words that do not apply)

The applicant states that 400-402 Mass Avenue, LLC is the OWNER of the property in Arlington located at 400-402 Mass Ave, Arlington, MA which is the subject of this application; and that unfavorable action -or- no unfavorable action has been taken by the Zoning Board of Appeals on a similar application regarding this property within the last two years. The applicant expressly agrees to comply with any and all conditions and qualifications imposed upon this permission, either by the Zoning Bylaw or by the Redevelopment Board, should the permit be granted.

Signature of Applicant(s)

c/o Robert J. Annese, 1171 Mass Ave., Arlington, MA 02476
Address

781-646-4911
Phone

Town of Arlington Redevelopment Board
Application for Special Permit in accordance with
Environmental Design Review (Section 3.4)

Required Submittals Checklist

File each in triplicate except for model

References are to Arlington Zoning Bylaw

- √ Dimensional and Parking Information Form
- √ Site plan of proposal
- Model, if required
- √ Drawing of existing conditions
- √ Drawing of proposed structure
- Proposed landscaping. May be incorporated into site plan
- Photographs
- √ Impact statement
- √ Application and plans for sign permits
- Stormwater management plan (for stormwater management during construction for projects with new construction)

FOR OFFICE USE ONLY

_____ Special Permit Granted	Date: _____
_____ Received evidence of filing with Registry of Deeds	Date: _____
_____ Notified Building Inspector of Special Permit filing	Date: _____

TOWN OF ARLINGTON
REDEVELOPMENT BOARD

Petition for Special Permit under Environmental Design Review (see Section 3.4 of the Arlington Zoning Bylaw for Applicability)

For projects subject to Environmental Design Review, (see section 3.4), please submit a statement that completely describes your proposal, and addresses each of the following standards.

1. **Preservation of Landscape.** The landscape shall be preserved in its natural state, insofar as practicable, by minimizing tree and soil removal, and any grade changes shall be in keeping with the general appearance of neighboring developed areas.

The landscaped open space which is presently 864 square feet +/- will remain at 864 square feet +/- while zoning would require 555 square feet +/-.

2. **Relation of Buildings to Environment.** Proposed development shall be related harmoniously to the terrain and to the use, scale, and architecture of existing buildings in the vicinity that have functional or visual relationship to the proposed buildings. The Arlington Redevelopment Board may require a modification in massing so as to reduce the effect of shadows on abutting property in an RU, RI or R2 district or on public open space.

The exterior physical characteristics of the building will no change as all of the changes will be interior changes to the building.

3. **Open Space.** All open space (landscaped and usable) shall be so designed as to add to the visual amenities of the vicinity by maximizing its visibility for persons passing the site or overlooking it from nearby properties. The location and configuration of usable open space shall be so designed as to encourage social interaction, maximize its utility, and facilitate maintenance.

The useable open space which 0 will remain at 0 with respect to Petitioner's proposed interior plans to the building.

4. **Circulation.** With respect to vehicular, pedestrian and bicycle circulation, including entrances, ramps, walkways, drives, and parking, special attention shall be given to location and number of access points to the public streets (especially in relation to existing traffic controls and mass transit facilities), width of interior drives and access points, general interior circulation, separation of pedestrian and vehicular traffic, access to community facilities, and arrangement of vehicle parking and bicycle parking areas, including bicycle parking spaces required by Section 8.13 that are safe and convenient and, insofar as practicable, do not detract from the use and enjoyment of proposed buildings and structures and the neighboring properties.

Traffic circulation will remain unchanged with one way traffic in and out to the parking spaces located to the rear of the building.

5. **Surface Water Drainage.** Special attention shall be given to proper site surface drainage so that removal of surface waters will not adversely affect neighboring properties or the public storm drainage system. Available Best Management Practices for the site should be employed, and include site planning to minimize impervious surface and reduce clearing and re-grading. Best Management Practices may include erosion control and storm water treatment by means of swales, filters, plantings, roof gardens, native vegetation, and leaching catch basins. Storm water should be treated at least minimally on the development site; that which cannot be handled on site shall be removed from all roofs, canopies, paved and pooling areas and carried away in an underground drainage system. Surface water in all paved areas shall be collected at intervals so that it will not obstruct the flow of vehicular or pedestrian traffic, and will not create puddles in the paved areas.

In accordance with Section 3.3.4, the Board may require from any applicant, after consultation with the Director of Public Works, security satisfactory to the Board to insure the maintenance of all storm water facilities such as catch basins, leaching catch basins, detention basins, swales, etc. within the site. The Board may use funds provided by such security to conduct maintenance that the applicant fails to do. The Board may adjust in its sole discretion the amount and type of financial security such that it is satisfied that the amount is sufficient to provide for the future maintenance needs.

The surface water drainage will remain unchanged.

6. **Utility Service.** Electric, telephone, cable TV and other such lines and equipment shall be underground. The proposed method of sanitary sewage disposal and solid waste disposal from all buildings shall be indicated.

There will be no changes to the utility services to the property and the method of sanitary sewage disposal and solid waste disposal will remain unchanged.

7. **Advertising Features.** The size, location, design, color, texture, lighting and materials of all permanent signs and outdoor advertising structures or features shall not detract from the use and enjoyment of proposed buildings and structures and the surrounding properties. Advertising features are subject to the provisions of Section 6.2 of the Zoning Bylaw.

Petitioner is still discussing any advertising features with respect to the building and is of the view that that matter can be dealt with administratively by the Planning Department.

8. **Special Features.** Exposed storage areas, exposed machinery installations, service areas, truck loading areas, utility buildings and structures, and similar accessory areas and structures shall be subject to such setbacks, screen plantings or other screening methods as shall reasonably be required to prevent their being incongruous with the existing or contemplated environment and the surrounding properties.

There will be no new machinery installed at the building and landscaping will be as shown on Petitioner's plans.

9. **Safety.** With respect to personal safety, all open and enclosed spaces shall be designed to facilitate building evacuation and maximize accessibility by fire, police, and other emergency personnel and equipment. Insofar as practicable, all exterior spaces and interior public and semi-public spaces shall be so designed as to minimize the fear and probability of personal harm or injury by increasing the potential surveillance by neighboring residents and passersby of any accident or attempted criminal act.

All open and enclosed spaces as presently existing will remain unchanged and are safe for inhabits of the building as well as neighboring residents and passerby's.

10. **Heritage.** With respect to Arlington's heritage, removal or disruption of historic, traditional or significant uses, structures, or architectural elements shall be minimized insofar as practicable, whether these exist on the site or on adjacent properties.

There will be no exterior changes to the existing building.

11. **Microclimate.** With respect to the localized climatic characteristics of a given area, any development which proposes new structures, new hard-surface ground coverage, or the installation of machinery which emits heat, vapor, or fumes, shall endeavor to minimize, insofar as practicable, any adverse impact on light, air, and water resources, or on noise and temperature levels of the immediate environment.

Not applicable.

12. **Sustainable Building and Site Design.** Projects are encouraged to incorporate best practices related to sustainable sites, water efficiency, energy and atmosphere, materials and resources, and indoor environmental quality.
Applicants must submit a current Green Building Council Leadership in Energy and Environmental Design (LEED) checklist, appropriate to the type of development, annotated with narrative description that indicates how the LEED performance objectives will be incorporated into the project.
[LEED checklists can be found at <http://www.usgbc.org/DisplayPage.aspx?CMSPageID=220b>]

Petitioner is submitting a LEED's report of LaGrasse Yanowitz & Feyl with respect to LEEDS considerations with regard to the building.

In addition, projects subject to Environmental Design Review must address and meet the following Special Permit Criteria (see Section 3.3.3 of the Zoning Bylaw)

1. The use requested is listed in the Table of Use Regulations as a special permit in the district for which application is made or is so designated elsewhere in this Bylaw.

The building is located in the B1 zone.

2. The requested use is essential or desirable to the public convenience or welfare.

The requested use will add additional residential units to the Town residential base which is in keeping with the master plan with respect to a mixed use zone such as a B1 zone and has been apparent for many years that the Town and its inhabitants and potential inhabitants would benefit from mixed use development in the Town.

3. The requested use will not create undue traffic congestion, or unduly impair pedestrian safety.

There will be no significant change in traffic to or from the property such as to impair pedestrian safety as there will be no change to the traffic pattern as has existed at the property for many years.

4. The requested use will not overload any public water, drainage or sewer system or any other municipal system to such an extent that the requested use or any developed use in the immediate area or in any other area of the Town will be unduly subjected to hazards affecting health, safety or the general welfare.}

The requested use will not overload of any town municipal system.

5. Any special regulations for the use, set forth in Article 11, are fulfilled.

This requirement is satisfied with respect to the plans.

6. The requested use will not impair the integrity or character of the district or adjoining districts, nor be detrimental to the health, morals, or welfare.

The requested use is similar to other uses in the neighborhood of the property as there is a mix of commercial and residential uses in the neighborhood and will be in keeping with the character and nature of those uses. Once again, there will be no exterior changes to the existing building.

7. **The requested use will not, by its addition to a neighborhood, cause an excess of that particular use that could be detrimental to the character of said neighborhood.**

The requested use as mentioned in item No. 6 will not by its addition to the neighborhood in which the property is located cause an excess of that particular use that could be detrimental to the character of the neighborhood.

TOWN OF ARLINGTON

Dimensional and Parking Information
for Application to
The Arlington Redevelopment Board

Docket No. _____

Property Location ARLINGTON, MA

Zoning District B1

Owner: 400-402 MASS AVE LLC

Address: 400-402 MASS AVE, ARLINGTON

Present Use/Occupancy: No. of Dwelling Units:

(2) Res Dwelling Units + (3) Business Units

Proposed Use/Occupancy: No. of Dwelling Units:

(4) Res Dwelling Units + (1) Business Unit –

Uses and their gross square feet:

Residential: 2,225 GSF / Business: 2,692 GSF / (638 GSF Circ+Stor)

Uses and their gross square feet:

Residential: 4,287 GSF / Business: 630 GSF / (638 GSF Circ+Stor)

**as well as the mixed-use
zoning bylaw amendment**

	Present Conditions	Proposed Conditions	Min. or Max. Required by Zoning for Proposed Use
Lot Size	4756 SF	4756 SF	min. 5,000 SF
Frontage	71.7 FT Mass Ave 68 FT Avon St.	71.7 FT Mass Ave 68 FT Avon St.	min. 50 FT
Floor Area Ratio	1.16	1.16	max. .75
Lot Coverage (%), where applicable	--	--	max. N/A
Lot Area per Dwelling Unit (square feet)	(2 Dwelling Units) 2378 SF	(4 Dwelling Units) 1189 SF	min. 2,500 SF
Front Yard Depth (feet)	0 FT	0 FT	min. 20 FT
Side Yard Width (feet)	right side left side	5 FT	min. 10 FT
			min. 10 FT
Rear Yard Depth (feet)	20 FT	20 FT	min. 20 FT
Height	--	--	min. --
Stories	2 & 3/4 STY	2 & 3/4 STY	stories 3
Feet	29.9 FT	29.9 FT	feet 35 FT
Open Space (% of G.F.A.)	--	--	min. --
Landscaped (square feet)	864 SF +/-	864 SF +/-	(s.f.) 10%, OR 555 SF
Usable (square feet)	0	0	(s.f.) 20%, OR 1111 SF
Parking Spaces (No.)	6	6	min. 6
Parking Area Setbacks (feet), where applicable	N/A	N/A	min. --
Loading Spaces (No.)	0	0	min. --
Type of Construction	WOOD FRAME, TYPE VB		
Distance to Nearest Building	10'-3" +/-	10'-3" +/-	min. N/A

400-402 Massachusetts Avenue
Arlington, MA

Environmental Impact Statement

The property located at 400-402 Massachusetts Avenue contains 4,756 square feet+/- and is in a B1 zone which zone is defined in Section 5.5 - Business Districts section of the Zoning Bylaw and at 5.5.1, Subsection A.

The definition in the Zoning Bylaw for a property located in a B1 zone is as follows:

“B1: Neighborhood Office District. In the Neighborhood Office District, the predominant uses include one- and two-family dwellings, houses with offices on the ground floor, or office structures which are in keeping with the scale of adjacent houses. Primarily located on or adjacent to Massachusetts Avenue, this district is intended to encourage preservation of small-scale structures to provide contrast and set off the higher-density, more active areas along the Avenue. Mixed-use buildings without retail space are allowed in this district. The Town discourages uses that would detract from the desired low level of activity, consume large amounts of land, or otherwise interfere with the intent of this Bylaw.”

The property was the subject of a 1980 Zoning Hearing and Decision which provided that there be no more than two (2) apartments developed on the site and that there would be at least one on-site parking space per dwelling unit to be set aside for apartment tenants and that the entrance to the basement space be from the front of the building with an open stairway leading down from the inside entrance and clearly marked as to how to enter the basement.

The Petitioner’s representative has now filed a Petition to Amend the Special Permit in accordance with the new mixed-use bylaw which applies in an B1 zone requesting that the building be allowed to have one (1) office unit and

four (4) residential units in accordance with plans submitted to the Zoning Board and which are also being submitted to the Arlington Redevelopment Board (hereinafter “ARB”) at this time.

While the 1980 Zoning Decision limited the number of apartments in the buildings to two (2) under the mixed-use bylaw and in accordance with the provisions Section 3.4, further Section 3.4.4 of the Zoning Bylaw, the ARB has the jurisdiction with respect to any work or changes to be made to the existing building and in exercising its jurisdiction the ARB is to follow certain standards in reviewing Petitioner’s plans in accordance with a portion of the language of Section 3.4.4 which states the following:

“The Standards are intended to provide a frame of reference for the Applicant in the development of site and building plans as well as a method of review for the review authority. They shall not be regarded as inflexible requirements and they are not intended to discourage creativity, invention and innovation.”

The property is located in a mixed-use area directly across from the main Arlington Fire Station, within steps of the heart of Arlington Center with its significant retail uses, but at the fringe of that area at a point where there is a transition to more residential uses, including a number of apartment buildings, smaller mixed-use offices and residential buildings as well as commercial buildings such as the commercial building located at 397 Massachusetts Avenue, across from the Fire Station.

Petitioner does not propose changes to the exterior of the building but rather seeks to maintain the mixed-use history of the building with respect to its plans.

The proposed use comports comfortably with the language contained in the definition of the neighborhood office district contained in the Zoning Bylaw as the proposed use will provide contrast and set off the higher-density, more active areas along the Massachusetts Avenue and further would not detract from a low-level of activity with respect to the use.

The total gross floor area (GFA) would remain the same with respect to Petitioner's plans and the property is nonconforming with respect to the Zoning Bylaw lot size, floor area ratio, lot area per dwelling, front, side yard depths, useable open space and parking space minimum requirements contained in the Bylaw.

As a result of the increase in the requested number of residential units from two (2) to four (4), the proposal would increase the nonconformity with respect to the lot area per dwelling unit by reducing it from 2032 square feet per unit to 921 square feet per unit.

Petitioner also proposes to increase the two (2) parking spaces currently located at the property from two (2) to six (6), while the required parking spaces would be 6.1 parking spaces as set forth within the substance of the Zoning Bylaw with respect to the proposed use which requires Petitioner to request a reduction with respect to the parking requirements contained in the Zoning Bylaw.

Accordingly, Petitioner is prepared in accordance with Section 6.1.5, further subsection C of the Zoning Bylaw to comply with the provisions of the Transportation Demand Management (TDM) conditions contained in subsection C as follows:

- (1) Provide covered bicycle parking and storage;
- (2) Provide an electric charging station; and

(3) Installation of a shower in the office unit.

The Zoning of Board Appeals in a decision dated June 23, 2020 unanimously voted that in light of the fact that the Petitioner's proposal invokes the jurisdiction of Section 3.4 of the Zoning Bylaw under Environmental Design Review, that the ARB can review the proposal in accordance with the criteria of Sections 3.3.3 and 3.4 and if the ARB approves Petitioner's proposal then that decision would be the controlling decision with respect to Petitioner's mixed-use proposal, but if the proposed Petition was not approved by the ARB, then the 1980 Special Permit Zoning Board of Appeals conditions would remain in effect.

The Members of the Zoning Board went on to find that the 1980 Special Permit issued by the Zoning Board which allowed for two (2) apartments and one (1) office on the site and which also made provision for parking spaces for the dwelling units would essentially be superseded by the decision of the ARB since the Zoning Board in any event would not have the authority to issue a Special Permit under Environmental Design Review as that jurisdiction was solely the authority of the ARB.

In summary, the relief sought by Petitioner is for conversion of the property from two (2) residential units and one (1) business units into four (4) residential dwelling units and one (1) business unit.

The permit applied for requires relief from the following sections of the Zoning Bylaw:

1. Section 6.1.5, (C) – Transportation Management relief;
2. Section 3.4. Environmental Design Review;
3. Section 5.3.16 – Yards and setbacks for lots adjoining a street or public open space; and

4. Mixed-use amendment to the zoning bylaw.

Petitioner has addressed the standards of Section 3.4 of the Zoning Bylaw as follows:

1. The landscaped opened space which is presently 864 square feet+/- will remain at 864+/- square feet while zoning would require 555 square feet+/-.
2. The exterior of the building will not change as all the changes will be interior changes.
3. The useable open space which is 0 will remain at 0 with respect to Petitioner's proposed interior plans to the building.
4. Traffic circulation will remain unchanged with one-way traffic in and out to the parking spaces which are located to the rear of the building.
5. The surface water drainage will remain unchanged.
6. There will be no changes to the utility service to the property.
7. Petitioner will, in all likelihood, discuss any advertising features with respect to the proposal with the Planning Department and would expect that any proposal made could be dealt with administratively by the Planning Department.
8. There will be no new machinery installed at the building.
9. All opened and closed spaces at the building will remained unchanged.
10. Petitioner has submitted a LEED's report of LAGRASSE YANOWITZ & FEYL with respect to LEED considerations with respect to the proposal as a part of its submission to the ARB.



400 MASS AVE
ARLINGTON

EXISTING FLOOR PLANS

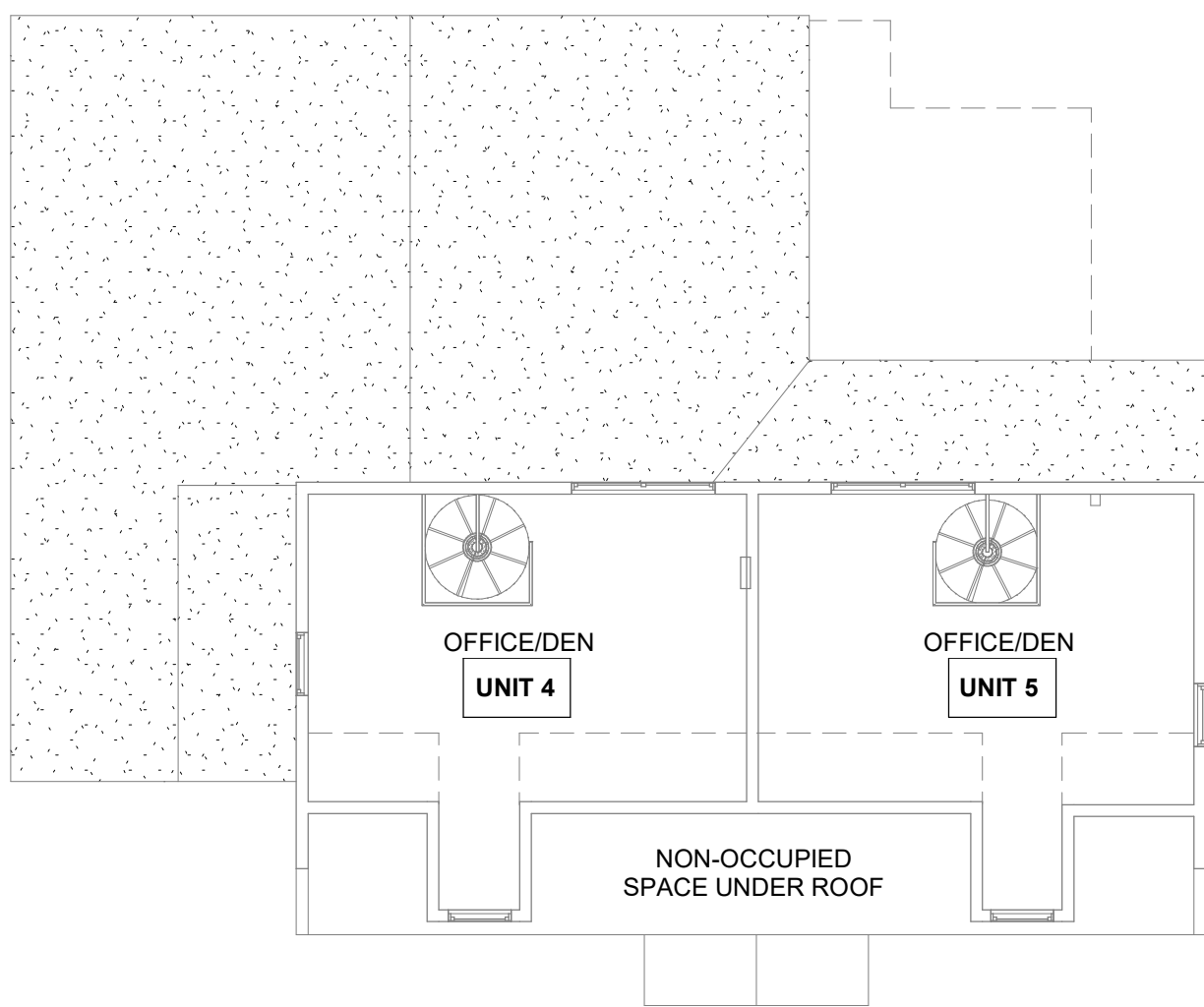
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Location: Approver
Title

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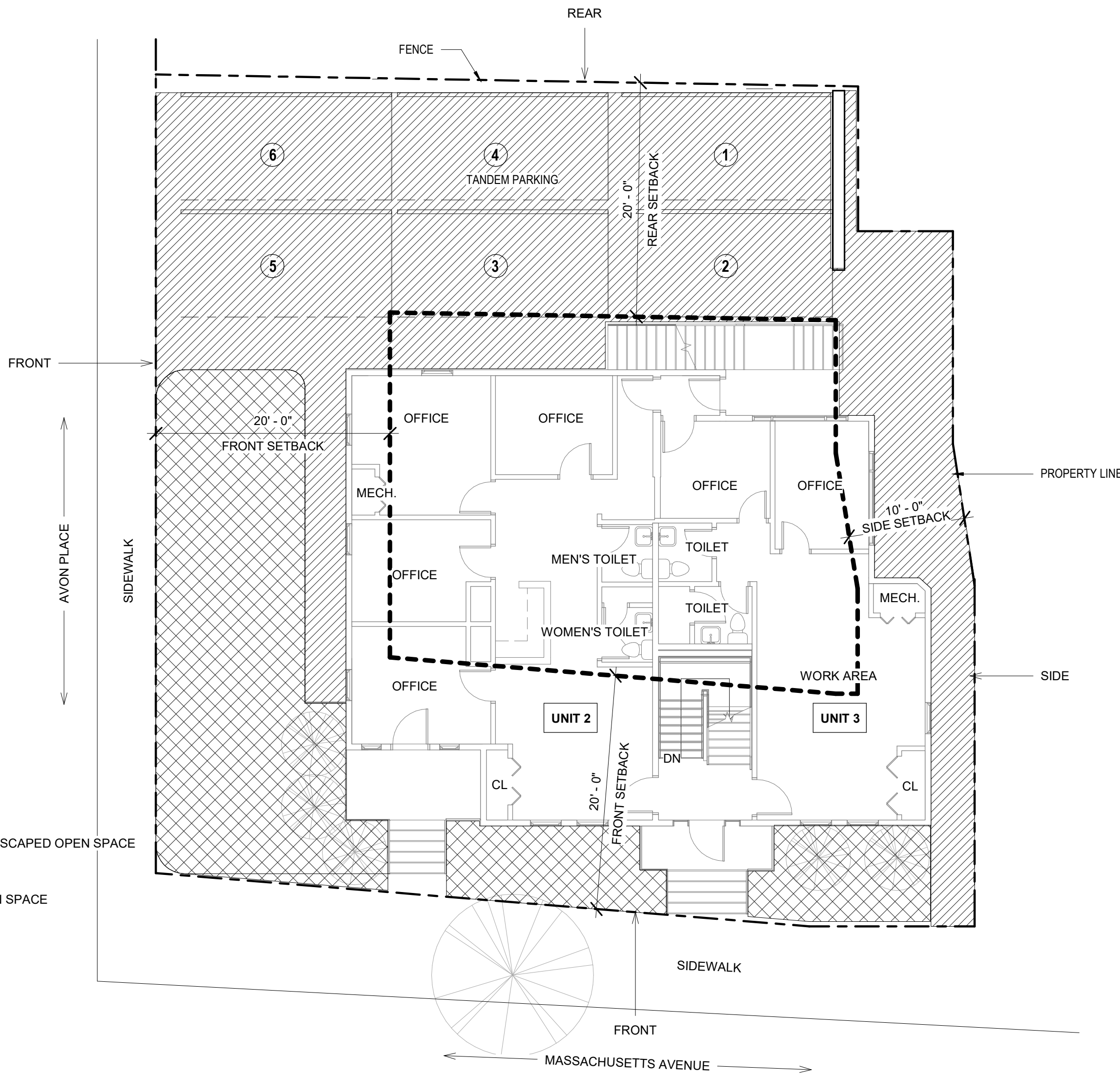
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Revisions	
Date	01/14/2020
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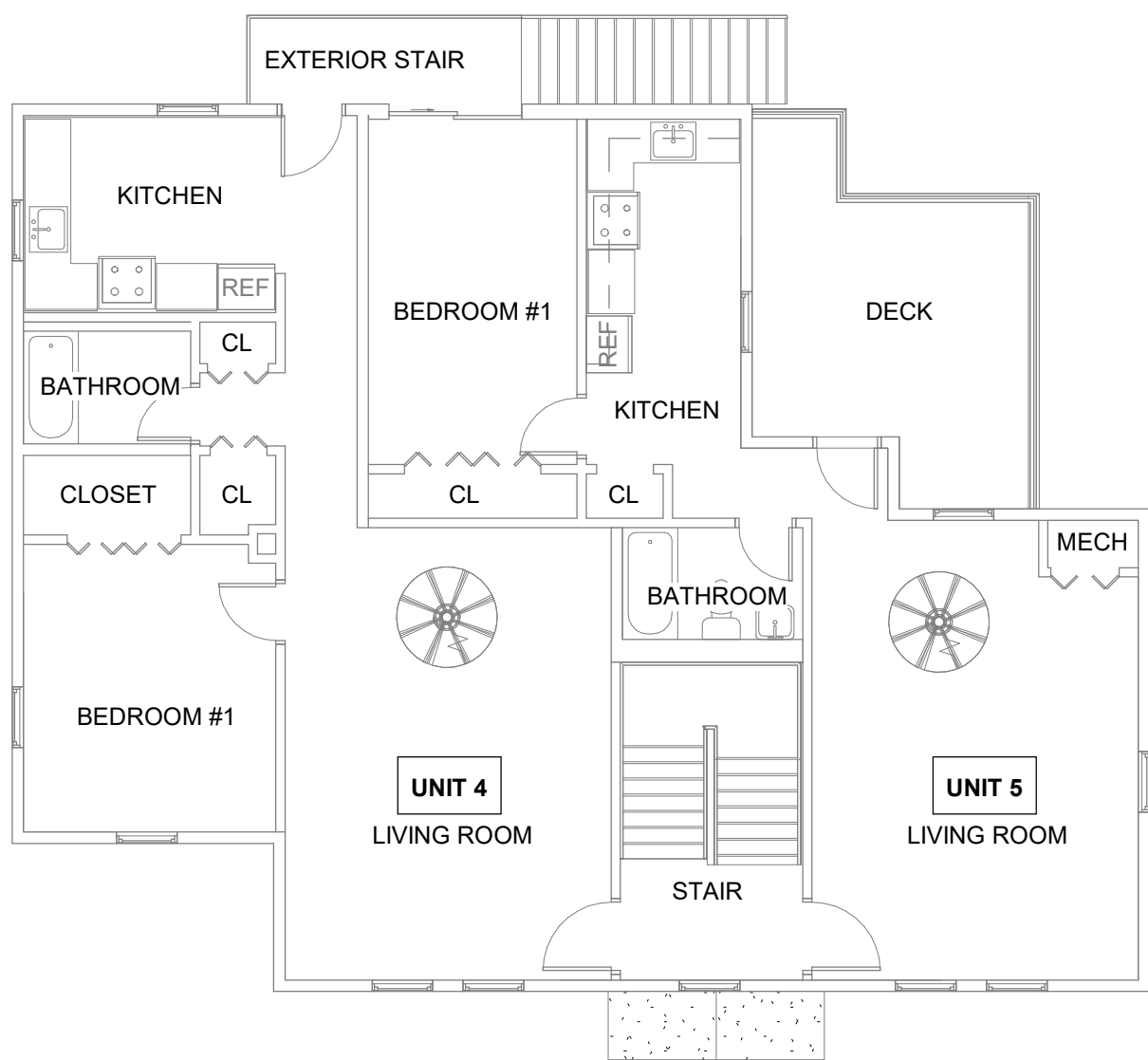
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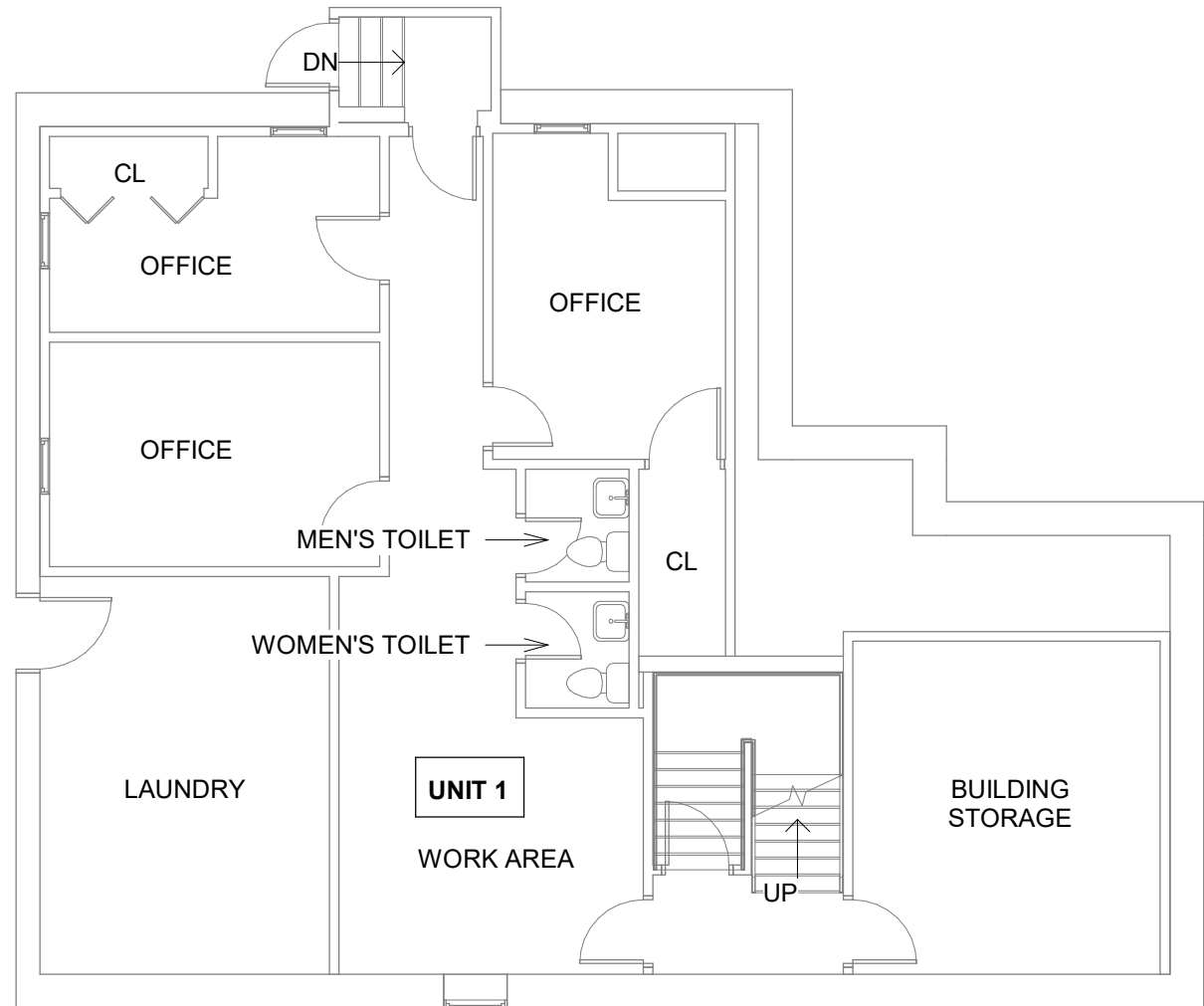
4 THIRD FLOOR PLAN
1/8" = 1'-0"



2 EXISTING FIRST FLOOR PLAN + SITE W/
ZONING INFORMATION
1/8" = 1'-0"



3 SECOND FLOOR PLAN
1/8" = 1'-0"



1 BASEMENT PLAN
1/8" = 1'-0"

SUMMARY USE GROUPS			
FLOOR	UNIT	EXISTING	PROPOSED
BASEMENT	UNIT 1	BUSINESS	RESIDENTIAL 1 BEDROOM
1ST FLOOR	UNIT 2	BUSINESS	RESIDENTIAL 2 BEDROOM
1ST FLOOR	UNIT 3	BUSINESS	BUSINESS (NO CHANGE)
2ND FLOOR	UNIT 4	RESIDENTIAL 1 BEDROOM	RESIDENTIAL 1 BEDROOM (NO CHANGE)
2ND FLOOR	UNIT 5	RESIDENTIAL 1 BEDROOM	RESIDENTIAL 1 BEDROOM (NO CHANGE)
		2 BEDROOMS	5 BEDROOMS



LAGRASSE YANOWITZ & FEYL

ARCHITECTURE + LAND PLANNING
+ CONSTRUCTION MANAGEMENT

ONE ELM SQUARE
ANDOVER | MA | 01810

T: 978.470.3675
www.LYFArchitects.com



400 MASS AVE
ARLINGTON

PROPOSED FLOOR PLANS

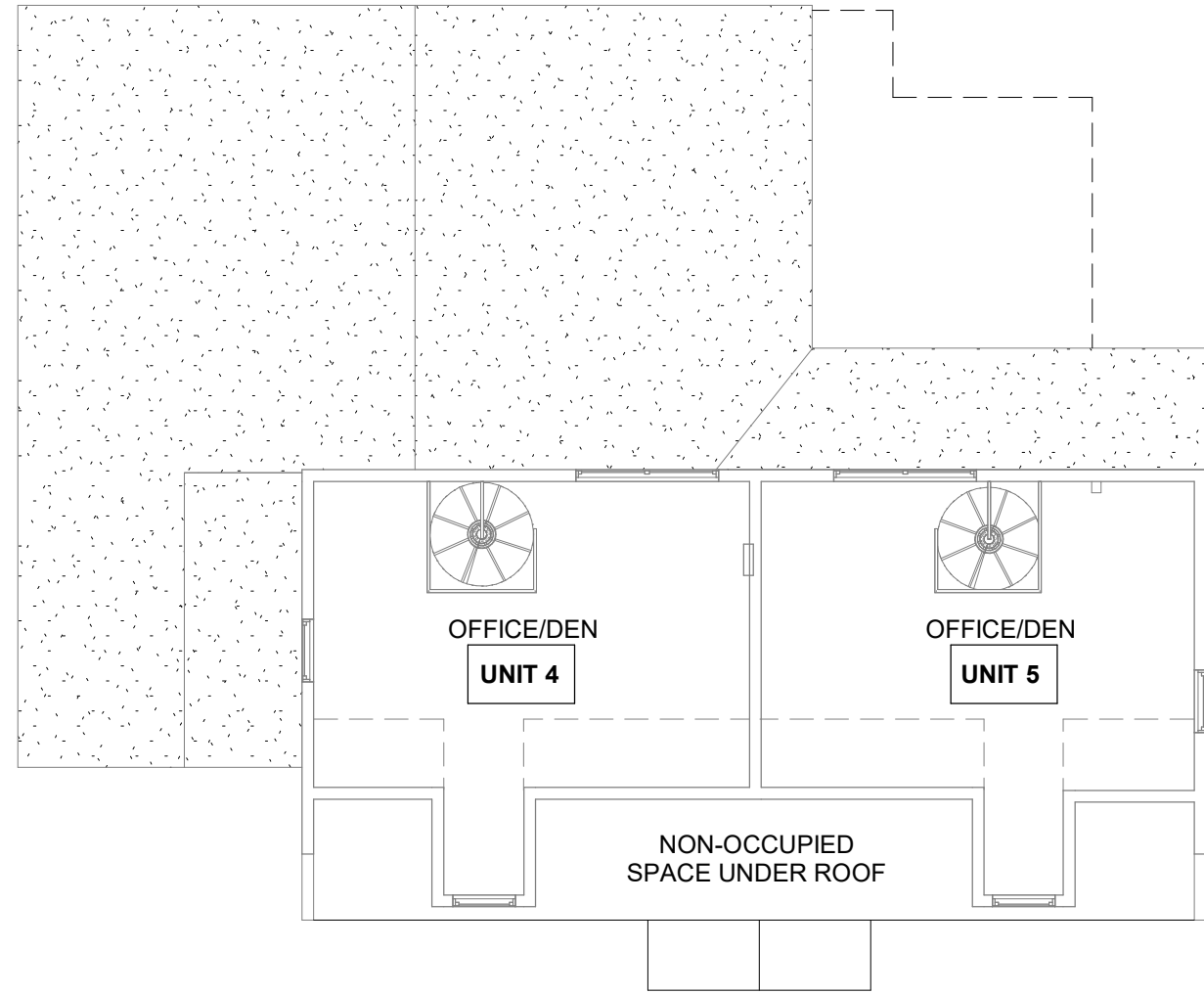
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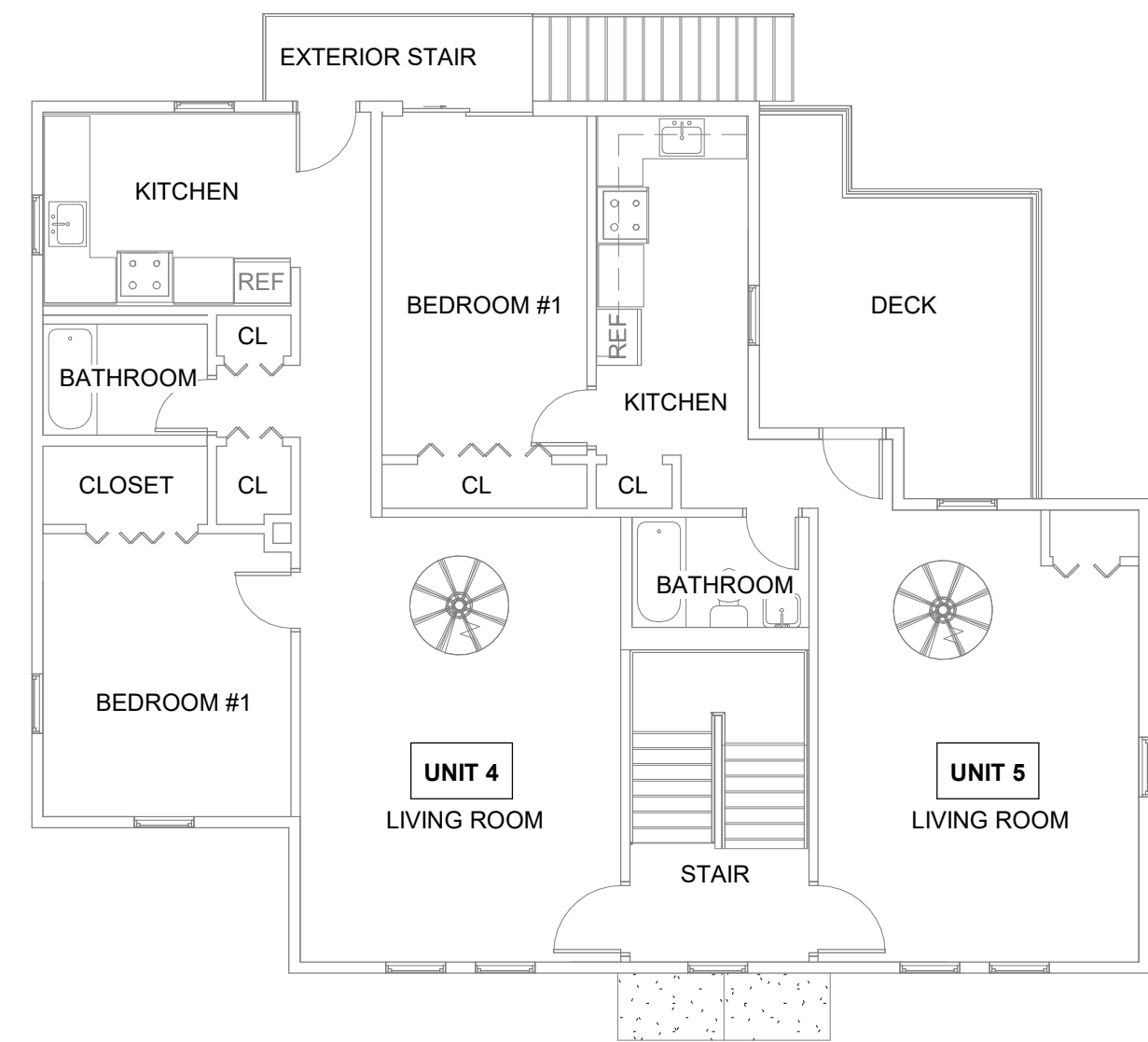
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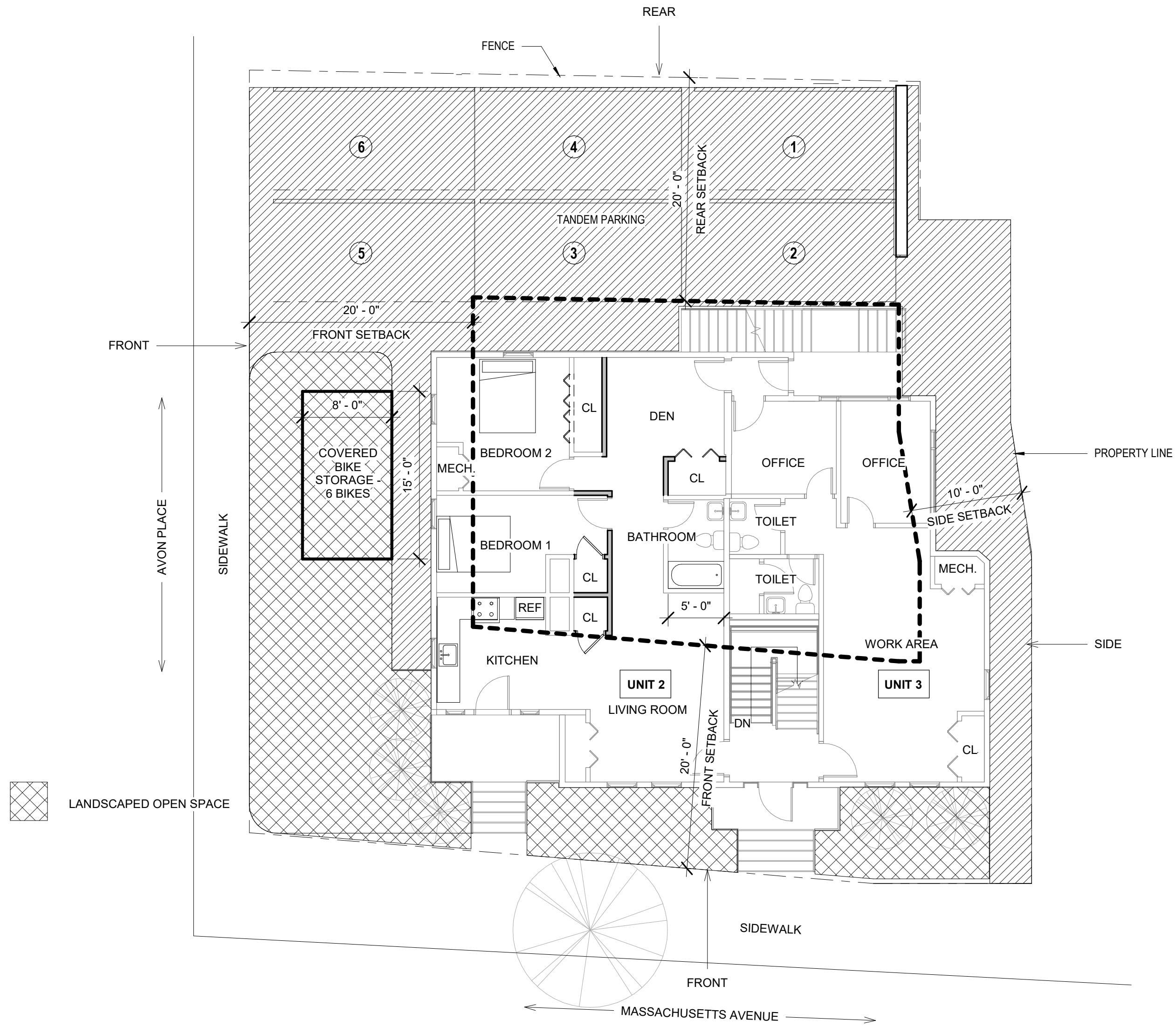
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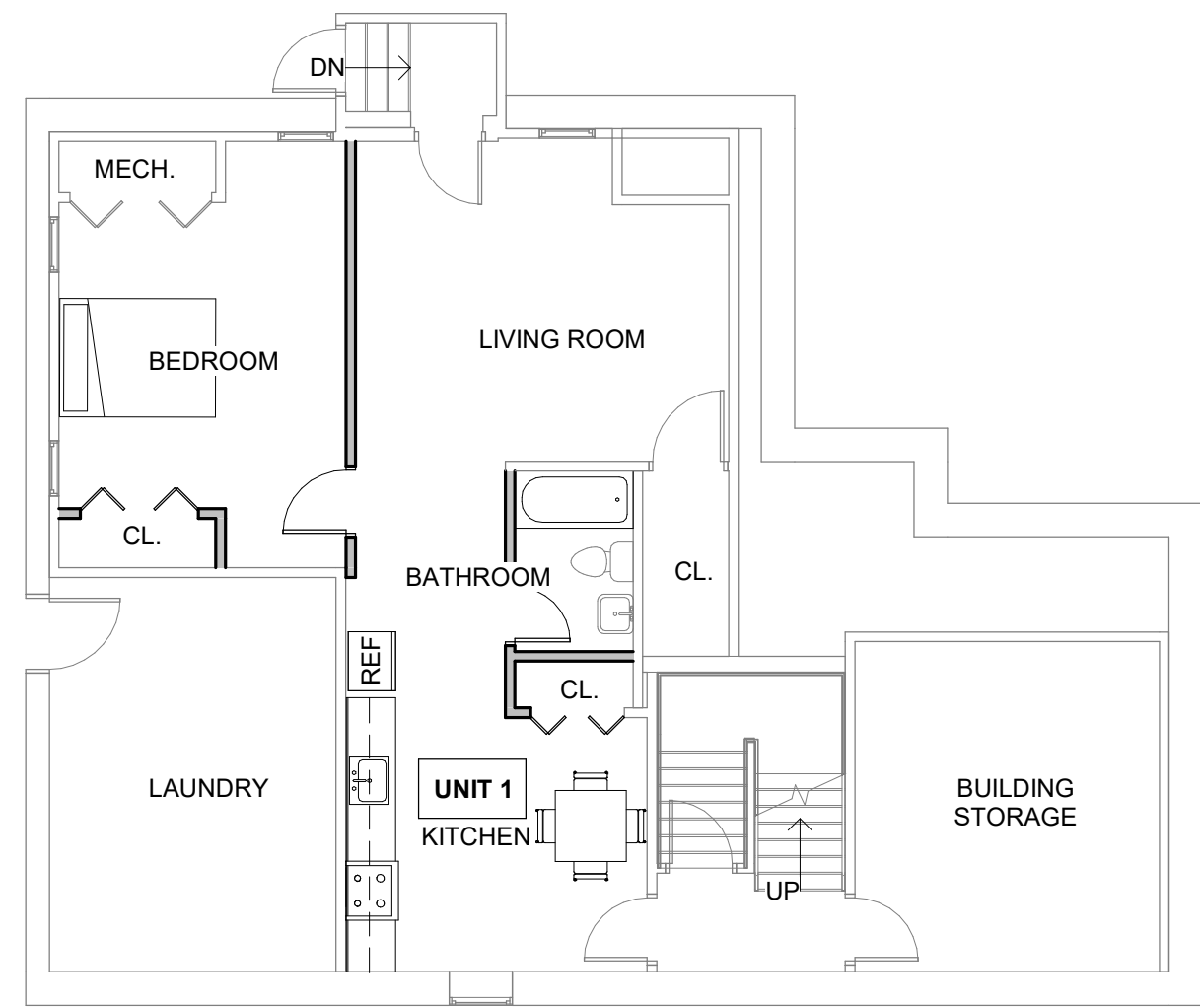
4 THIRD FLOOR PLAN (NO CHANGES)
1/8" = 1'-0"



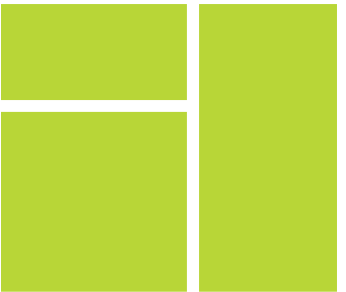
3 SECOND FLOOR PLAN (NO CHANGES)
1/8" = 1'-0"



2 PROPOSED FIRST FLOOR PLAN + SITE
W/ ZONING INFORMATION
1/8" = 1'-0"



1 BASEMENT PLAN - PROPOSED
1/8" = 1'-0"



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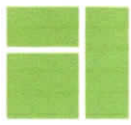
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ANDOVER | MA | 01810

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www.LYFArchitects.com



400 MASSACHUSETTS AVE. ARLINGTON, MA
BUILDING FACADE PHOTOS



400 MASS AVE – LEED CONSIDERATIONS

The improvements at 400-402 Massachusetts Avenue will look to incorporate the items below per 'LEED_v4.1_Residential_BD_C_Multifamily_Homes' to support the sustainable building practices goal in Arlington, MA.

LOW EMITTING MATERIALS

These materials are to be integrated to reduce concentrations of chemical contaminants that can damage air quality, human health, productivity, and the environment. Some of these building materials are as follows:

-Paints and Coatings

At least 75% of all paints and coatings, by volume or surface area, are to meet the VOC emissions evaluation AND 100% meet the VOC content evaluation.

-Adhesives and Sealants

At least 75% of all adhesives and sealants, by volume or surface area, are to meet the VOC emissions evaluation AND 100% meet the VOC content evaluation

-Flooring

At least 90% of all flooring materials (carpet, ceramic, vinyl, rubber, engineered, solid wood, laminates), by cost or surface area, is to meet the VOC emissions evaluation OR inherently non emitting sources criteria, OR salvaged and reused materials criteria.

INDOOR AIR QUALITY

The LEED objective is to establish better quality indoor air in the building after construction and during occupancy. Before each dwelling unit is occupied, air cleaning, a flush-out with a recirculating HEPA Air Filtration Device, and air testing in the unit to Demonstrate that 10 micron particles do not exceed 8 µg/m³ should be performed.

ACCESS TO QUALITY TRANSIT

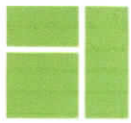
Functional entry is located within ¼ mile walking distance to existing bus stop.

ENVIRONMENTALLY PREFERABLE PRODUCTS

At least 70% of each new compliant building component (floor covering, insulation, framing/structural systems, drywall, doors cabinets, countertops and/or interior trim), by weight or volume, will aim meet one of the requirements below:

The product contains at least 25% reclaimed material, including salvaged, refurbished, or reused materials. For renovation projects, existing components are considered reclaimed. Wood by-products can be counted as reclaimed material. These include items from secondary manufacturers; felled, diseased, or dead trees from urban or suburban areas; orchard trees that are unproductive and cut for replacement; and wood recovered from landfills or water bodies.

The product contains at least 25% postconsumer or 50% pre consumer content.



Wood products must be Forest Stewardship Council (FSC) Certified, or USGBC-approved equivalent.

Bio-based materials. Bio-based products must meet the Sustainable Agriculture Network's Sustainable Agriculture Standard. Bio-based raw materials must be tested using ASTM Test Method D6866 and be legally harvested, as defined by the exporting and receiving country. Exclude hide products, such as leather and other animal skin material.

Concrete that consists of at least 30% fly ash or slag used as a cement substitute.

Extended producer responsibility. Products purchased from a manufacturer (producer) that participates in an extended producer responsibility program or is directly responsible for extended producer responsibility.

WATER USE REDUCTION

The project will seek to reduce aggregate water consumption by 20% from the baseline for each new fixture (toilets, showerheads, dishwashers, etc.)

MINIMUM ENERGY PERFORMANCE

For new dwelling units, heating and cooling systems will look to meet the following equipment selection sizing guidelines, or next nominal size:

Cooling Equipment:

Single-Speed Compressor: 90-130% of total heat gain

Two-Speed Compressor: 90-140% of total heat gain

Variable-Speed Compressor: 90-160% of total heat gain

Heating Equipment:

100-140% of total heat loss AND energy performance compliance.

TOWN OF ARLINGTON
REDEVELOPMENT BOARD

Application for Special Permit In Accordance with Environmental Design
Review Procedures (Section 3.4 of the Zoning Bylaw)

Docket No. _____

1. Property Address: 400-402 Mass Ave
Name of Record Owner(s): 400-402 Mass Avenue, LLC Phone: 781-646-4911
Address of Owner: 455 Mass Ave, Suite #1, Arlington, MA 02474
Street City, State, ZIP
2. Name of Applicant(s) (if different than above): SAME
Address: _____ Phone: _____
Status Relative to Property (occupant, purchaser, etc.): _____
3. Location of Property: MAP 101.0 BLOCK 0002 LOT 0003.A
Assessor's Block Plan, Block, Lot No.
4. Deed recorded in the Middlesex South District Registry of Deeds, Book 70704, Page 49; or- registered
in Land Registration Office, Cert. No. _____, Book _____, Page _____
5. Present Use of Property (include # of dwelling units, if any): (2) Residential dwelling units, (3) business units
6. Proposed Use of Property (include # of dwelling units, if any): (4) Residential dwelling units, (1) business unit
7. Permit applied for in accordance with the following Zoning Bylaw section(s):

<u>Section 6.1.5(c)</u>	<u>Transportation demand management relief</u>
<u>Section 4.4</u>	<u>Environmental Design Review</u>
<u>Section 3.16</u>	<u>Yards or setbacks for lots adjoining a street or public open space</u>
8. Please attach a statement that describes your project and provide any additional information that may aid the ARB in understanding the permits you request. Include any reasons that you feel you should be granted the requested permission.

See attached Statement incorporated by reference into the terms of this Application.

(In the statement below, strike out the words that do not apply)

The applicant states that 400-402 Mass Avenue, LLC is the OWNER of the property in Arlington located at 400-402 Mass Ave, Arlington, MA which is the subject of this application; and that unfavorable action -or- no unfavorable action has been taken by the Zoning Board of Appeals on a similar application regarding this property within the last two years. The applicant expressly agrees to comply with any and all conditions and qualifications imposed upon this permission, either by the Zoning Bylaw or by the Redevelopment Board, should the permit be granted.

Signature of Applicant(s)

c/o Robert J. Annese, 1171 Mass Ave., Arlington, MA 02476
Address

781-646-4911
Phone



Town of Arlington Redevelopment Board
Application for Special Permit in accordance with
Environmental Design Review (Section 3.4)

Required Submittals Checklist

Two full sets of materials and one electronic copy are required. A model may be requested. Review the ARB's Rules and Regulations, which can be found at arlingtonma.gov/arb, for the full list of required submittals.

- ☒ Dimensional and Parking Information Form (see attached)
- ☒ Site plan of proposal
- ☐ Model, if required
- ☒ Drawing of existing conditions
- ☒ Drawing of proposed structure
- ☐ Proposed landscaping. May be incorporated into site plan
- ☒ Photographs
- ☒ Impact statement
- ☐ Application and plans for sign permits
- ☐ Stormwater management plan (for stormwater management during construction for projects with new construction)

FOR OFFICE USE ONLY

_____ Special Permit Granted	Date: _____
_____ Received evidence of filing with Registry of Deeds	Date: _____
_____ Notified Building Inspector of Special Permit filing	Date: _____

TOWN OF ARLINGTON
REDEVELOPMENT BOARD

Petition for Special Permit under Environmental Design Review (see Section 3.4 of the Arlington Zoning Bylaw for Applicability)

For projects subject to Environmental Design Review, (see section 3.4), please submit a statement that completely describes your proposal, and addresses each of the following standards.

1. **Preservation of Landscape.** The landscape shall be preserved in its natural state, insofar as practicable, by minimizing tree and soil removal, and any grade changes shall be in keeping with the general appearance of neighboring developed areas.

The landscaped open space which is presently 864 square feet +/- will remain at 864 square feet +/- while zoning would require 555 square feet +/-..

2. **Relation of Buildings to Environment.** Proposed development shall be related harmoniously to the terrain and to the use, scale, and architecture of existing buildings in the vicinity that have functional or visual relationship to the proposed buildings. The Arlington Redevelopment Board may require a modification in massing so as to reduce the effect of shadows on abutting property in an RU, RI or R2 district on public open space.

The exterior physical characteristics of the building will no change as all of the changes will be interior changes to the building.

3. **Open Space.** All open space (landscaped and usable) shall be so designed as to add to the visual amenities of the vicinity by maximizing its visibility for persons passing the site or overlooking it from nearby properties. The location and configuration of usable open space shall be so designed as to encourage social interaction, maximize its utility, and facilitate maintenance.

The useable open space which 0 will remain at 0 with respect to Petitioner's proposed interior plans to the building.

4. **Circulation.** With respect to vehicular, pedestrian and bicycle circulation, including entrances, ramps, walkways, drives, and parking, special attention shall be given to location and number of access points to the public streets (especially in relation to existing traffic controls and mass transit facilities), width of interior drives and access points, general interior circulation, separation of pedestrian and vehicular traffic, access to community facilities, and arrangement of vehicle parking and bicycle parking areas, including bicycle parking spaces required by Section 8.13 that are safe and convenient and, insofar as practicable, do not detract from the use and enjoyment of proposed buildings and structures and the neighboring properties.

Traffic circulation will remain unchanged with one way traffic in and out to the parking spaces located to the rear of the building.

5. **Surface Water Drainage.** Special attention shall be given to proper site surface drainage so that removal of surface waters will not adversely affect neighboring properties or the public storm drainage system. Available Best Management Practices for the site should be employed, and include site planning to minimize impervious surface and reduce clearing and re-grading. Best Management Practices may include erosion control and storm water treatment by means of swales, filters, plantings, roof gardens, native vegetation, and leaching catch basins. Storm water should be treated at least minimally on the development site; that which cannot be handled on site shall be removed from all roofs, canopies, paved and pooling areas and carried away in an underground drainage system. Surface water in all paved areas shall be collected at intervals so that it will not obstruct the flow of vehicular or pedestrian traffic, and will not create puddles in the paved areas.

In accordance with Section 3.3.4, the Board may require from any applicant, after consultation with the Director of Public Works, security satisfactory to the Board to insure the maintenance of all storm water facilities such as catch basins, leaching catch basins, detention basins, swales, etc. within the site. The Board may use funds provided by such security to conduct maintenance that the applicant fails to do. The Board may adjust in its sole discretion the amount and type of financial security such that it is satisfied that the amount is sufficient to provide for the future maintenance needs.

The surface water drainage will remain unchanged.

6. **Utility Service.** Electric, telephone, cable TV and other such lines and equipment shall be underground. The proposed method of sanitary sewage disposal and solid waste disposal from all buildings shall be indicated.

There will be no changes to the utility services to the property and the method of sanitary sewage disposal and solid waste disposal will remain unchanged.

7. **Advertising Features.** The size, location, design, color, texture, lighting and materials of all permanent signs and outdoor advertising structures or features shall not detract from the use and enjoyment of proposed buildings and structures and the surrounding properties. Advertising features are subject to the provisions of Section 6.2 of the Zoning Bylaw.

Petitioner is still discussing any advertising features with respect to the building and is of the view that that matter can be dealt with administratively by the Planning Department.

8. **Special Features.** Exposed storage areas, exposed machinery installations, service areas, truck loading areas, utility buildings and structures, and similar accessory areas and structures shall be subject to such setbacks, screen plantings or other screening methods as shall reasonably be required to prevent their being incongruous with the existing or contemplated environment and the surrounding properties.

There will be no new machinery installed at the building and landscaping will be as shown on Petitioner's plans.

9. **Safety.** With respect to personal safety, all open and enclosed spaces shall be designed to facilitate building evacuation and maximize accessibility by fire, police, and other emergency personnel and equipment. Insofar as practicable, all exterior spaces and interior public and semi-public spaces shall be so designed as to minimize the fear and probability of personal harm or injury by increasing the potential surveillance by neighboring residents and passersby of any accident or attempted criminal act.

All open and enclosed spaces as presently existing will remain unchanged and are safe for inhabits of the building as well as neighboring residents and passerby's.

10. **Heritage.** With respect to Arlington's heritage, removal or disruption of historic, traditional or significant uses, structures, or architectural elements shall be minimized insofar as practicable, whether these exist on the site or on adjacent properties.

There will be no exterior changes to the existing building.

11. **Microclimate.** With respect to the localized climatic characteristics of a given area, any development which proposes new structures, new hard-surface ground coverage, or the installation of machinery which emits heat, vapor, or fumes, shall endeavor to minimize, insofar as practicable, any adverse impact on light, air, and water resources, or on noise and temperature levels of the immediate environment.

Not applicable.

12. **Sustainable Building and Site Design.** Projects are encouraged to incorporate best practices related to sustainable sites, water efficiency, energy and atmosphere, materials and resources, and indoor environmental quality.
- Applicants must submit a current Green Building Council Leadership in Energy and Environmental Design (LEED) checklist, appropriate to the type of development, annotated with narrative description that indicates how the LEED performance objectives will be incorporated into the project.
- [LEED checklists can be found at <http://www.usgbc.org/DisplayPage.aspx?CMSPageID=220b>]

Petitioner is submitting a LEED's report of LaGrasse Yanowitz & Feyl with respect to LEEDS considerations with regard to the building.

In addition, projects subject to Environmental Design Review must address and meet the following Special Permit Criteria (see Section 3.3.3 of the Zoning Bylaw)

1. The use requested is listed in the Table of Use Regulations as a special permit in the district for which application is made or is so designated elsewhere in this Bylaw.

The building is located in the B1 zone.

2. The requested use is essential or desirable to the public convenience or welfare.

The requested use will add additional residential units to the Town residential base which is in keeping with the master plan with respect to a mixed use zone such as a B1 zone and has been apparent for many years that the Town and its inhabitants and potential inhabitants would benefit from mixed use development in the Town.

3. The requested use will not create undue traffic congestion or unduly impair pedestrian safety.

There will be no significant change in traffic to or from the property such as to impair pedestrian safety as there will be no change to the traffic pattern as has existed at the property for many years.

4. The requested use will not overload any public water, drainage or sewer system or any other municipal system to such an extent that the requested use or any developed use in the immediate area or in any other area of the Town will be unduly subjected to hazards affecting health, safety or the general welfare.}

The requested use will not overload of any town municipal system.

5. Any special regulations for the use, set forth in Article 11, are fulfilled.

This requirement is satisfied with respect to the plans.

6. The requested use will not impair the integrity or character of the district or adjoining districts, nor be detrimental to the health, morals, or welfare.

The requested use is similar to other uses in the neighborhood of the property as there is a mix of commercial and residential uses in the neighborhood and will be in keeping with the character and nature of those uses. Once again, there will be no exterior changes to the existing building.

7. **The requested use will not, by its addition to a neighborhood, cause an excess of that particular use that could be detrimental to the character of said neighborhood.**

The requested use as mentioned in item No. 6 will not by its addition to the neighborhood in which the property is located cause an excess of that particular use that could be detrimental to the character of the neighborhood.

SUPERSEDED

TOWN OF ARLINGTON

Dimensional and Parking Information
for Application to
The Arlington Redevelopment Board

Docket No. _____

Property Location ARLINGTON, MA

Zoning District B1

Owner: 400-402 MASS AVE LLC

Address: 400-402 MASS AVE, ARLINGTON

Present Use/Occupancy: No. of Dwelling Units:

(2) Res Dwelling Units + (3) Business Units

Proposed Use/Occupancy: No. of Dwelling Units:

(4) Res Dwelling Units + (1) Business Unit

Uses and their gross square feet:

Residential: 2,225 GSF / Business: 2,692 GSF / (638 GSF Circ+Stor)

Uses and their gross square feet:

Residential: 4,287 GSF / Business: 630 GSF / (638 GSF Circ+Stor)

	Present Conditions	Proposed Conditions	Min. or Max. Required by Zoning for Proposed Use
Lot Size	4756 SF	4756 SF	min. 5,000 SF
Frontage	71.7 FT Mass Ave 68 FT Avon St.	71.7 FT Mass Ave 68 FT Avon St.	min. 50 FT
Floor Area Ratio	1.16	1.16	max. .75
Lot Coverage (%), where applicable	--	--	max. N/A
Lot Area per Dwelling Unit (square feet)	(2 Dwelling Units) 2378 SF	(4 Dwelling Units) 1189 SF	min. 2,500 SF
Front Yard Depth (feet)	0 FT	0 FT	min. 20 FT
Side Yard Width (feet)	right side 5 FT	5 FT	min. 10 FT
	left side		min. 10 FT
Rear Yard Depth (feet)	20 FT	20 FT	min. 20 FT
Height	--	--	min. --
Stories	2 & 3/4 STY	2 & 3/4 STY	stories 3
Feet	29.9 FT	29.9 FT	feet 35 FT
Open Space (% of G.F.A.)	--	--	min. --
Landscaped (square feet)	864 SF +/-	864 SF +/-	(s.f.) 10%, OR 555 SF
Usable (square feet)	0	0	(s.f.) 20%, OR 1111 SF
Parking Spaces (No.)	6	6	min. 6
Parking Area Setbacks (feet), where applicable	N/A	N/A	min. --
Loading Spaces (No.)	0	0	min. --
Type of Construction	WOOD FRAME, TYPE VB		
Distance to Nearest Building	10'-3" +/-	10'-3" +/-	min. N/A

400-402 Massachusetts Avenue
Arlington, MA

Environmental Impact Statement

The property located at 400-402 Massachusetts Avenue contains 4,756 square feet+/- and is in a B1 zone which zone is defined in Section 5.5 - Business Districts section of the Zoning Bylaw and at 5.5.1, Subsection A.

The definition in the Zoning Bylaw for a property located in a B1 zone is as follows:

"B1: Neighborhood Office District. In the Neighborhood Office District, the predominant uses include one- and two-family dwellings, houses with offices on the ground floor, or office structures which are in keeping with the scale of adjacent houses. Primarily located on or adjacent to Massachusetts Avenue, this district is intended to encourage preservation of small-scale structures to provide contrast and set off the higher-density, more active areas along the Avenue. Mixed-use buildings without retail space are allowed in this district. The Town discourages uses that would detract from the desired low level of activity, consume large amounts of land, or otherwise interfere with the intent of this Bylaw."

The property was the subject of a 1980 Zoning Hearing and Decision which provided that there be no more than two (2) apartments developed on the site and that there would be at least one on-site parking space per dwelling unit to be set aside for apartment tenants and that the entrance to the basement space be from the front of the building with an open stairway leading down from the inside entrance and clearly marked as to how to enter the basement.

The Petitioner's representative has now filed a Petition to Amend the Special Permit in accordance with the new mixed-use bylaw which applies in an B1 zone requesting that the building be allowed to have one (1) office unit and

four (4) residential units in accordance with plans submitted to the Zoning Board and which are also being submitted to the Arlington Redevelopment Board (hereinafter "ARB") at this time.

While the 1980 Zoning Decision limited the number of apartments in the buildings to two (2) under the mixed-use bylaw and in accordance with the provisions Section 3.4, further Section 3.4.4 of the Zoning Bylaw, the ARB has the jurisdiction with respect to any work or changes to be made to the existing building and in exercising its jurisdiction the ARB is to follow certain standards in reviewing Petitioner's plans in accordance with a portion of the language of Section 3.4.4 which states the following:

"The Standards are intended to provide a frame of reference for the Applicant in the development of site and building plans as well as a method of review for the review authority. They shall not be regarded as inflexible requirements and they are not intended to discourage creativity, invention and innovation."

The property is located in a mixed-use area directly across from the main Arlington Fire Station, within steps of the heart of Arlington Center with its significant retail uses, but at the fringe of that area at a point where there is a transition to more residential uses, including a number of apartment buildings, smaller mixed-use offices and residential buildings as well as commercial buildings such as the commercial building located at 397 Massachusetts Avenue, across from the Fire Station.

Petitioner does not propose changes to the exterior of the building but rather seeks to maintain the mixed-use history of the building with respect to its plans.

The proposed use comports comfortably with the language contained in the definition of the neighborhood office district contained in the Zoning Bylaw as the proposed use will provide contrast and set off the higher-density, more active areas along the Massachusetts Avenue and further would not detract from a low-level of activity with respect to the use.

The total gross floor area (GFA) would remain the same with respect to Petitioner's plans and the property is nonconforming with respect to the Zoning Bylaw lot size, floor area ratio, lot area per dwelling, front, side yard depths, useable open space and parking space minimum requirements contained in the Bylaw.

As a result of the increase in the requested number of residential units from two (2) to four (4), the proposal would increase the nonconformity with respect to the lot area per dwelling unit by reducing it from 2032 square feet per unit to 921 square feet per unit.

Petitioner also proposes to increase the two (2) parking spaces currently located at the property from two (2) to six (6), while the required parking spaces would be 6.1 parking spaces as set forth within the substance of the Zoning Bylaw with respect to the proposed use which requires Petitioner to request a reduction with respect to the parking requirements contained in the Zoning Bylaw.

Accordingly, Petitioner is prepared in accordance with Section 6.1.5, further subsection C of the Zoning Bylaw to comply with the provisions of the Transportation Demand Management (TDM) conditions contained in subsection C as follows:

- (1) Provide covered bicycle parking and storage;
- (2) Provide preferential parking for carpooling vehicles; and

(3) Provide bicycle or car sharing on site.

The Zoning of Board Appeals in a decision dated June 23, 2020 unanimously voted that in light of the fact that the Petitioner's proposal invokes the jurisdiction of Section 3.4 of the Zoning Bylaw under Environmental Design Review, that the ARB can review the proposal in accordance with the criteria of Sections 3.3.3 and 3.4 and if the ARB approves Petitioner's proposal then that decision would be the controlling decision with respect to Petitioner's mixed-use proposal, but if the proposed Petition was not approved by the ARB, then the 1980 Special Permit Zoning Board of Appeals conditions would remain in effect.

The Members of the Zoning Board went on to find that the 1980 Special Permit issued by the Zoning Board which allowed for two (2) apartments and one (1) office on the site and which also made provision for parking spaces for the dwelling units would essentially be superseded by the decision of the ARB since the Zoning Board in any event would not have the authority to issue a Special Permit under Environmental Design Review as that jurisdiction was solely the authority of the ARB.

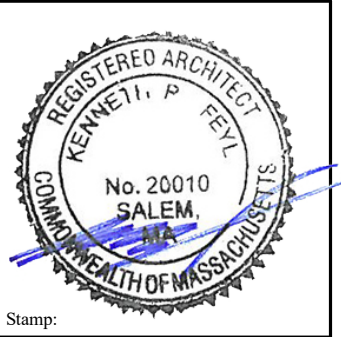
In summary, the relief sought by Petitioner is for conversion of the property from two (2) residential units and one (1) business units into four (4) residential dwelling units and one (1) business unit.

The permit applied for requires relief from the following sections of the Zoning Bylaw:

1. Section 6.1.5, (C) – Transportation Management relief;
2. Section 3.4. Environmental Design Review; and
3. Section 5.3.16 – Yards and setbacks for lots adjoining a street or public open space.

Petitioner has addressed the standards of Section 3.4 of the Zoning Bylaw as follows:

1. The landscaped opened space which is presently 864 square feet+/- will remain at 864+/- square feet while zoning would require 555 square feet+/-.
2. The exterior of the building will not change as all the changes will be interior changes.
3. The useable open space which is 0 will remain at 0 with respect to Petitioner's proposed interior plans to the building.
4. Traffic circulation will remain unchanged with one way traffic in and out to the parking spaces which are located to the rear of the building.
5. The surface water drainage will remain unchanged.
6. There will be no changes to the utility service to the property.
7. Petitioner will, in all likelihood, discuss any advertising features with respect to the proposal with the Planning Department and would expect that any proposal made could be dealt with administratively by the Planning Department.
8. There will be no new machinery installed at the building.
9. All opened and closed spaces at the building will remained unchanged.
10. Petitioner has submitted a LEED's report of LAGRASSE YANOWITZ & FEYL with respect to LEED considerations with respect to the proposal as a part of its submission to the ARB.



400 MASS AVE
ARLINGTON

EXISTING FLOOR PLANS

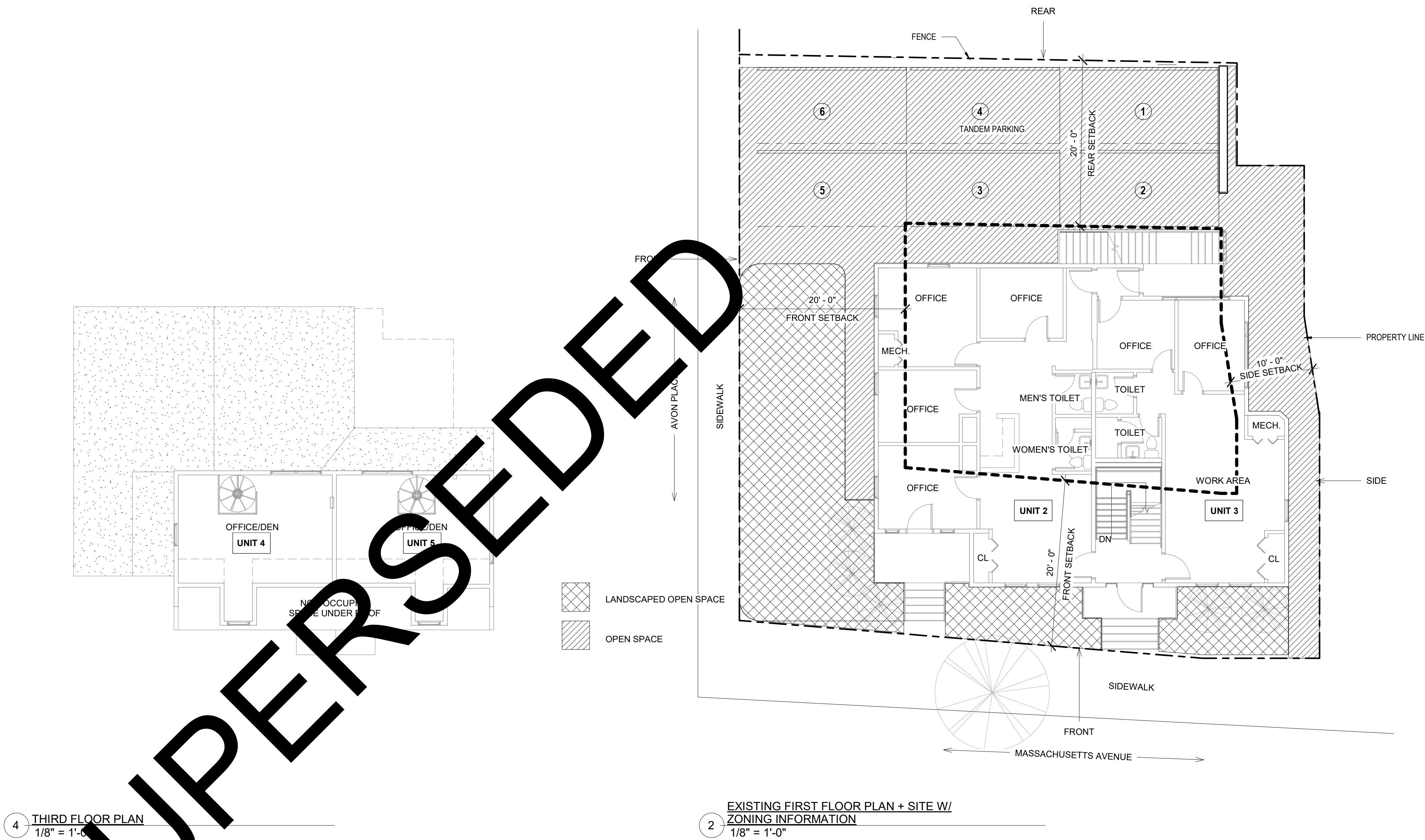
Prepared for:
Location: Approver
Title

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Mark	Date
Revisions	
Date	01/14/2020
Scale	As indicated
Job No.	2876
Sheet No.	

A100



SUMMARY USE GROUPS			
FLOOR	UNIT	EXISTING	PROPOSED
BASEMENT	UNIT 1	BUSINESS	RESIDENTIAL 1 BEDROOM
1ST FLOOR	UNIT 2	BUSINESS	RESIDENTIAL 2 BEDROOM
1ST FLOOR	UNIT 3	BUSINESS	BUSINESS (NO CHANGE)
2ND FLOOR	UNIT 4	RESIDENTIAL 1 BEDROOM	RESIDENTIAL 1 BEDROOM (NO CHANGE)
2ND FLOOR	UNIT 5	RESIDENTIAL 1 BEDROOM	RESIDENTIAL 1 BEDROOM (NO CHANGE)
		2 BEDROOMS	5 BEDROOMS

4 THIRD FLOOR PLAN
1/8" = 1'-0"

3 SECOND FLOOR PLAN
1/8" = 1'-0"

2 EXISTING FIRST FLOOR PLAN + SITE W/ ZONING INFORMATION
1/8" = 1'-0"

1 BASEMENT PLAN
1/8" = 1'-0"



LAGRASSE YANOWITZ & FEYL

ARCHITECTURE + LAND PLANNING
+ CONSTRUCTION MANAGEMENT

ONE ELM SQUARE
ANDOVER | MA | 01810

T: 978.470.3675
www.LYFArchitects.com



400 MASS AVE
ARLINGTON

PROPOSED FLOOR PLANS

Prepared for:
Location: Approver
Title

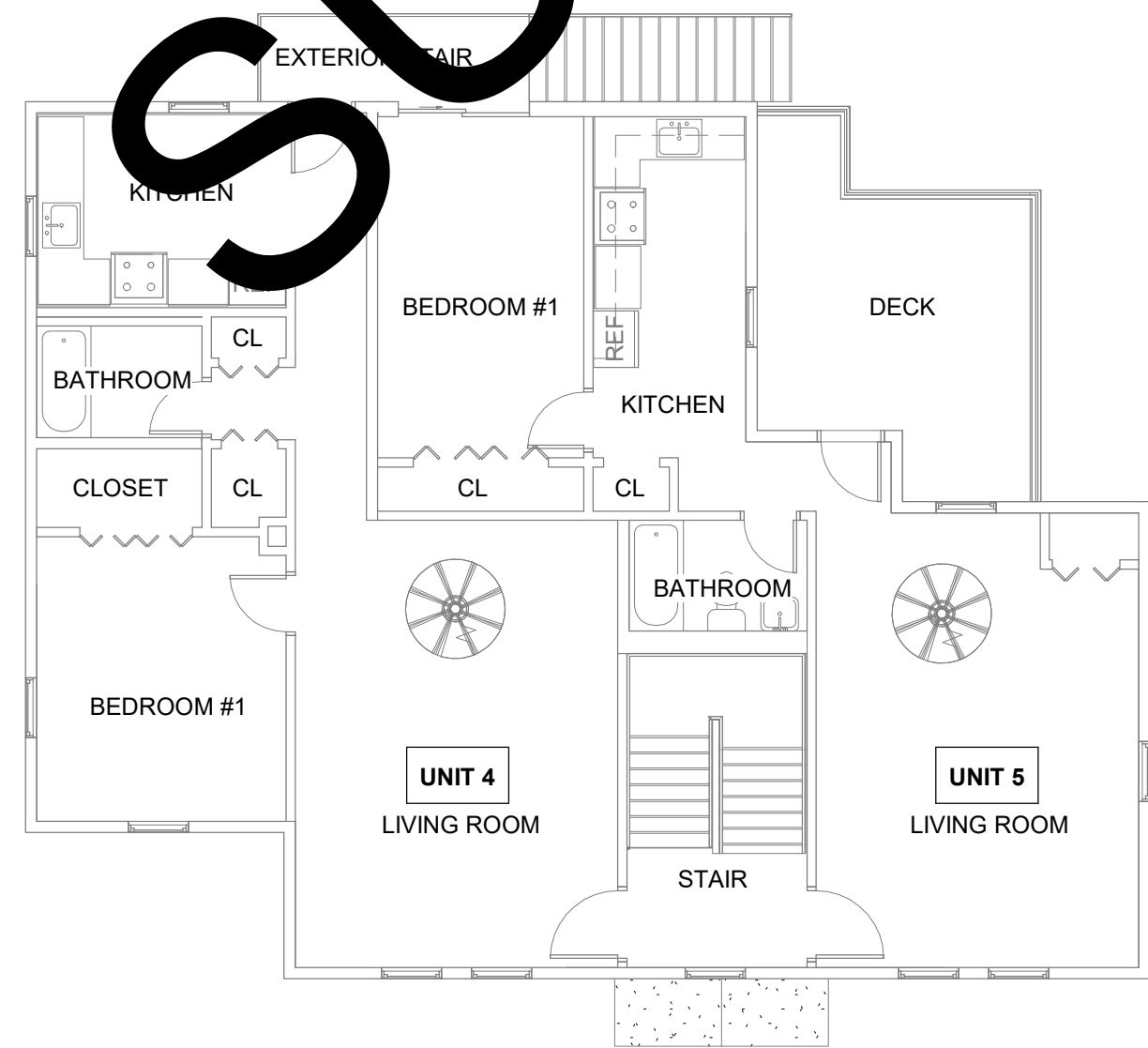
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Date	05/28/2020
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A101

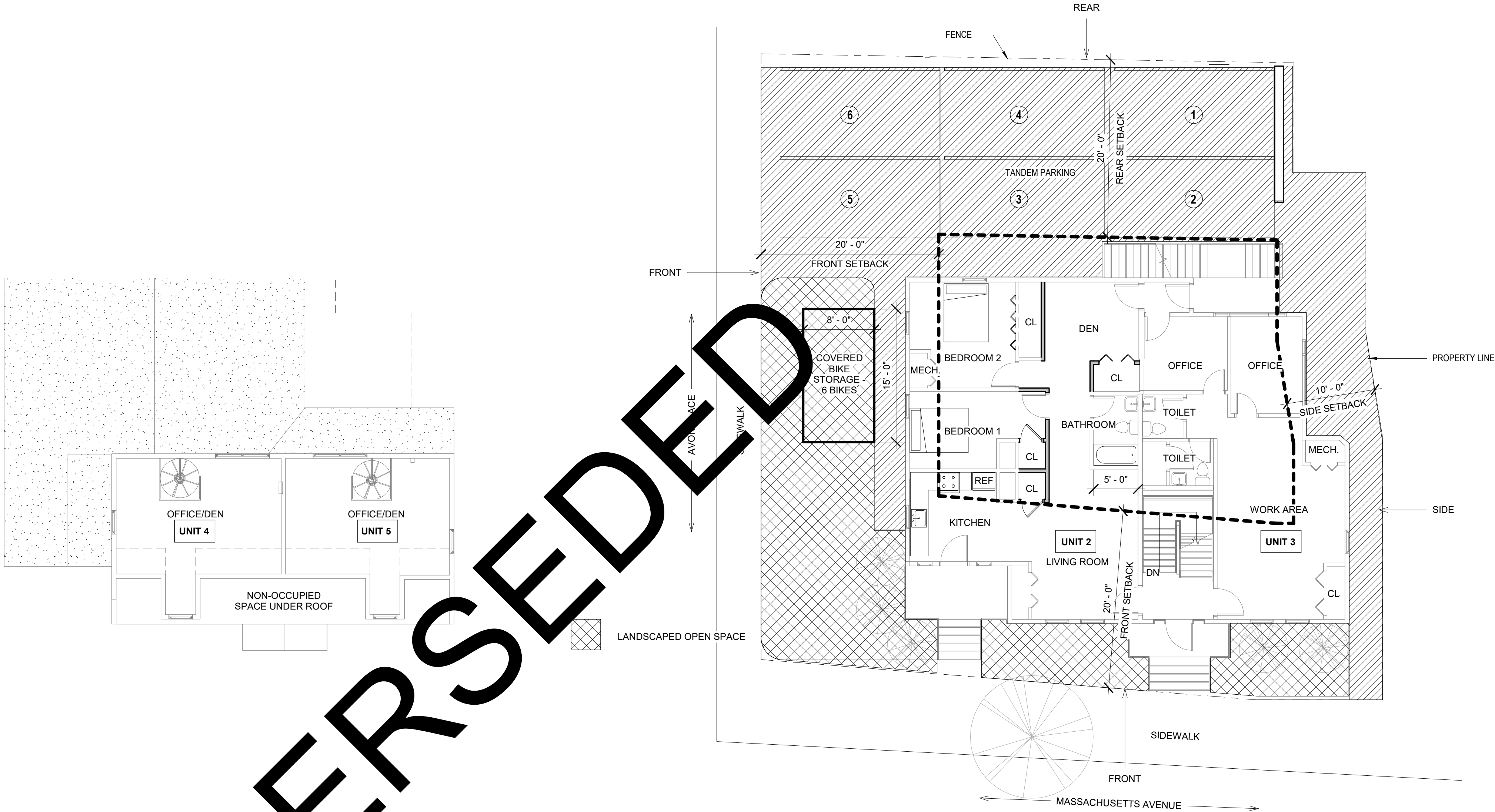
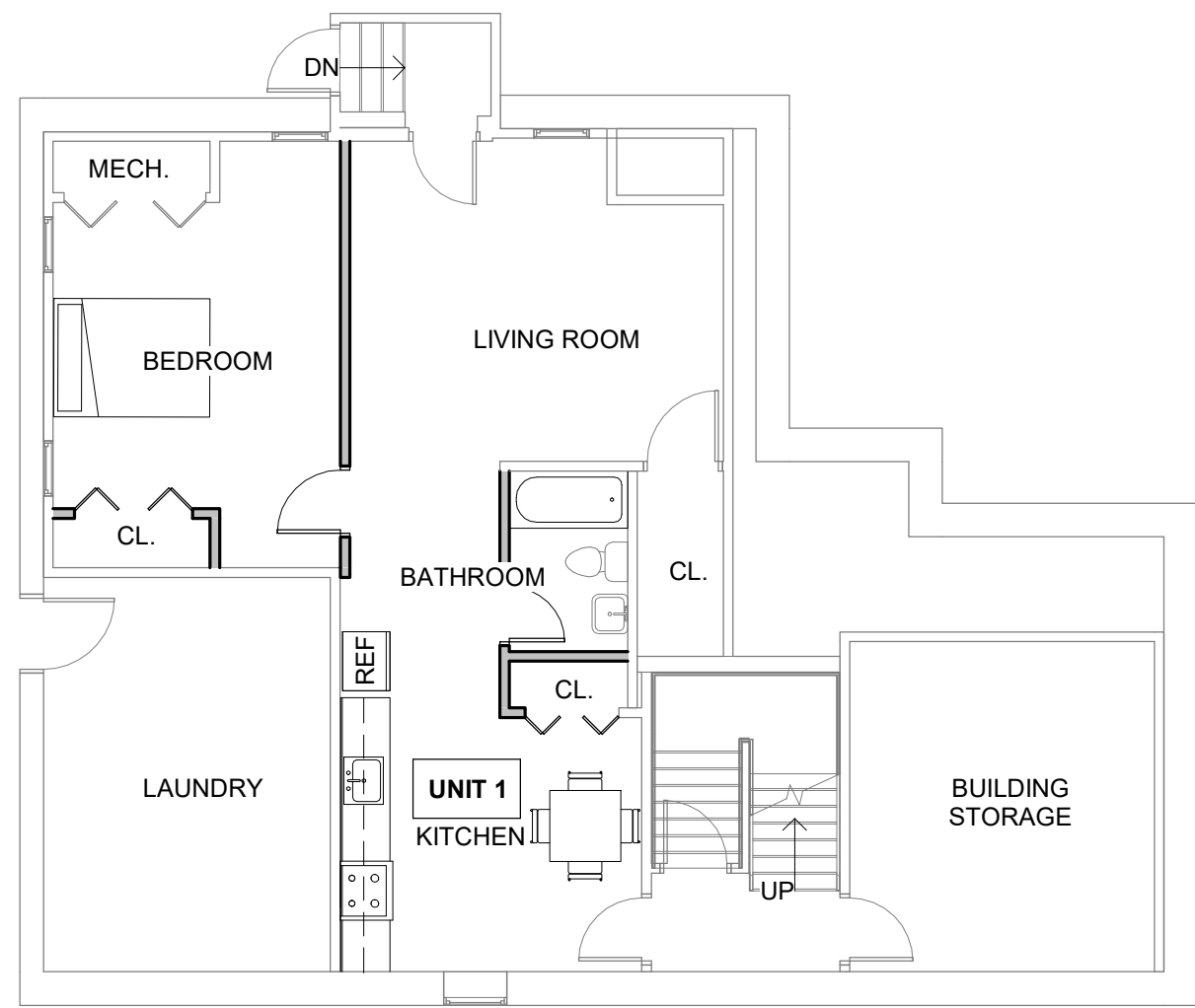
4 THIRD FLOOR PLAN (NO CHANGES)
1/8" = 1'-0"

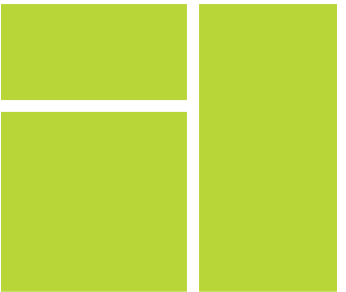


3 SECOND FLOOR PLAN (NO CHANGES)
1/8" = 1'-0"

2 PROPOSED FIRST FLOOR PLAN + SITE
W/ZONING INFORMATION
1/8" = 1'-0"

1 BASEMENT PLAN -PROPOSED
1/8" = 1'-0"





LAGRASSE YANOWITZ & FEYL

ARCHITECTURE + LAND PLANNING
+ CONSTRUCTION MANAGEMENT

ONE ELM SQUARE
ANDOVER | MA | 01810

T: 978.470.3675
www.LYFArchitects.com

400 MASSACHUSETTS AVE. ARLINGTON, MA
BUILDING FACADE PHOTOS



400 MASS AVE – LEED CONSIDERATIONS

The improvements at 400-402 Massachusetts Avenue will look to incorporate the items below per 'LEED_v4.1_Residential_BD_C_Multifamily_Homes' to support the sustainable building practices goal in Arlington, MA.

LOW EMITTING MATERIALS

These materials are to be integrated to reduce concentrations of chemical contaminants that can damage air quality, human health, productivity, and the environment. Some of these building materials are as follows:

-Paints and Coatings

At least 75% of all paints and coatings, by volume or surface area, are to meet the VOC emissions evaluation AND 100% meet the VOC content evaluation.

-Adhesives and Sealants

At least 75% of all adhesives and sealants, by volume or surface area, are to meet the VOC emissions evaluation AND 100% meet the VOC content evaluation.

-Flooring

At least 90% of all flooring materials (carpet, ceramic, vinyl, rubber, engineered, solid wood, laminates), by cost or surface area, is to meet the VOC emissions evaluation OR inherently non emitting sources criteria, OR salvaged and reused materials criteria.

INDOOR AIR QUALITY

The LEED objective is to establish better quality indoor air in the building after construction and during occupancy. Before each dwelling unit is occupied, air cleaning, a flush-out with a recirculating HEPA Air Filtration Device, and air testing in the unit to Demonstrate that 10 micron particles do not exceed 8 µg/m3 should be performed.

ACCESS TO QUALITY TRANSIT

Functional entry is located within ¼ mile walking distance to existing bus stop.

ENVIRONMENTALLY PREFERABLE PRODUCTS

At least 70% of each new compliant building component (floor covering, insulation, framing/structural systems, drywall, doors cabinets, countertops and/or interior trim), by weight or volume, will aim meet one of the requirements below:

The product contains at least 25% reclaimed material, including salvaged, refurbished, or reused materials. For renovation projects, existing components are considered reclaimed. Wood by-products can be counted as reclaimed material. These include items from secondary manufacturers; felled, diseased, or dead trees from urban or suburban areas; orchard trees that are unproductive and cut for replacement; and wood recovered from landfills or water bodies.

The product contains at least 25% postconsumer or 50% pre consumer content.



Wood products must be Forest Stewardship Council (FSC) Certified, or USGBC-approved equivalent.

Bio-based materials. Bio-based products must meet the Sustainable Agriculture Network's Sustainable Agriculture Standard. Bio-based raw materials must be tested using ASTM Test Method D6866 and be legally harvested, as defined by the exporting and receiving country. Exclude hide products, such as leather and other animal skin material.

Concrete that consists of at least 30% fly ash or slag used as a cement substitute.

Extended producer responsibility. Products purchased from a manufacturer (producer) that participates in an extended producer responsibility program or is directly responsible for extended producer responsibility.

WATER USE REDUCTION

The project will seek to reduce aggregate water consumption by 20% from the baseline for each new fixture (toilets, showerheads, dishwashers, etc.)

MINIMUM ENERGY PERFORMANCE

For new dwelling units, heating and cooling systems will look to meet the following equipment selection sizing guidelines, or next nominal size:

Cooling Equipment:

Single-Speed Compressor: 90-130% of total heat gain

Two-Speed Compressor: 90-140% of total heat gain

Variable-Speed Compressor: 90-160% of total heat gain

Heating Equipment:

100-140% of total heat loss AND energy performance compliance.

SUPERSEDED



LEED v4 for BD+C: Core and Shell

Project Checklist

Project Name: 400 Mass Ave Apartments - Arlington, MA

Date: 10/9/2020

Y ? N

Credit Integrative Process

1

0 2 0 Location and Transportation 20

		Credit	LEED for Neighborhood Development Location	20
		Credit	Sensitive Land Protection	2
		Credit	High Priority Site	3
		Credit	Surrounding Density and Diverse Uses	6
	1	Credit	Access to Quality Transit	6
	1	Credit	Bicycle Facilities	1
		Credit	Reduced Parking Footprint	1
		Credit	Green Vehicles	1

0 0 0 Sustainable Sites 11

Y	Prereq			Construction Activity Pollution Prevention	Required
			Credit	Site Assessment	1
			Credit	Site Development - Protect or Restore Habitat	2
			Credit	Open Space	1
			Credit	Rainwater Management	3
			Credit	Heat Island Reduction	2
			Credit	Light Pollution Reduction	1
			Credit	Tenant Design and Construction Guidelines	1

0 1 0 Water Efficiency 1

Y		Prereq	Outdoor Water Use Reduction	Required
Y		Prereq	Indoor Water Use Reduction	Required
Y		Prereq	Building-Level Water Metering	Required
		Credit	Outdoor Water Use Reduction	2
	1	Credit	Indoor Water Use Reduction	6
		Credit	Cooling Tower Water Use	2
		Credit	Water Metering	1

0 0 0 Energy and Atmosphere 33

Y	Prereq	Fundamental Commissioning and Verification	Required
Y	Prereq	Minimum Energy Performance	Required
Y	Prereq	Building-Level Energy Metering	Required
Y	Prereq	Fundamental Refrigerant Management	Required
	Credit	Enhanced Commissioning	6
	Credit	Optimize Energy Performance	18
	Credit	Advanced Energy Metering	1
	Credit	Demand Response	2
	Credit	Renewable Energy Production	3
	Credit	Enhanced Refrigerant Management	1
	Credit	Green Power and Carbon Offsets	2

0 3 0 Materials and Resources 14

Y		Prereq	Storage and Collection of Recyclables	Required
Y		Prereq	Construction and Demolition Waste Management Planning	Required
		Credit	Building Life-Cycle Impact Reduction	6
	1	Credit	Building Product Disclosure and Optimization - Environmental Product Declarations	2
		Credit	Building Product Disclosure and Optimization - Sourcing of Raw Materials	2
	1	Credit	Building Product Disclosure and Optimization - Material Ingredients	2
	1	Credit	Construction and Demolition Waste Management	2

0 5 0 Indoor Environmental Quality 10

Y		Prereq	Minimum Indoor Air Quality Performance	Required
Y		Prereq	Environmental Tobacco Smoke Control	Required
2		Credit	Enhanced Indoor Air Quality Strategies	2
3		Credit	Low-Emitting Materials	3
		Credit	Construction Indoor Air Quality Management Plan	1
		Credit	Daylight	3
		Credit	Quality Views	1

0 0 0 Innovation 6

Credit	Innovation	5
Credit	LEED Accredited Professional	1

0 0 0 Regional Priority 4

Credit	Regional Priority: Specific Credit	1
Credit	Regional Priority: Specific Credit	1
Credit	Regional Priority: Specific Credit	1
Credit	Regional Priority: Specific Credit	1

0 11 0 TOTALS Possible Points: 110

Certified: 40 to 49 points, Silver: 50 to 59 points, Gold: 60 to 79 points, Platinum: 80 to 110

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1. *Phragmites australis* (Cav.) Trin. ex Steud.

1. *Phragmites australis* (Cav.) Trin. ex Steud.

1. *Phragmites australis* (Cav.) Trin. ex Steud.



2020 00176380

Docket Number 3624

Docket Number 3624

Docket Number 3624

Docket Number 3624

Docket Number 3624

Docket Number 3624



Docket Number 3624

Docket Number 3624

Docket Number 3624

STATEMENT OF PROCEEDINGS

The Petitioner seeks to amend the existing Special Permit issued in Docket No. 2306 on April 9, 1980 in order to allow the Redevelopment Board to review the proposed application for a mixed use development at the 400-402 Massachusetts Avenue real estate.

Some of the conditions of the existing Special Permit would need to be waived and jurisdiction transferred to the Arlington Redevelopment Board as the property being located on Massachusetts Avenue comes within the jurisdiction of the Arlington Redevelopment Board under Environmental Design Review.

The property is located in a B1 Zoning District.

Legal notice was provided in the Arlington Advocate for two (2) consecutive weeks, with the notice indicating that a hearing would be held on Tuesday, June 23, 2020 by way of Zoom Hearing due the COVID-19 Pandemic Crises with the hearing commencing at 7:30 p.m.

The Board was in receipt of the following:

1. Plans showing conversion of the property consisting of A100 and A101;
2. A photograph compilation of the property;
3. An e-mail dated December 17, 2019 from the Planning Department to Robert J. Annese indicating their position with respect to the conversion of the property to one office and four residential units;
4. Memorandum of Fact and Law submitted by Attorney Robert J. Annese;
5. Prior Zoning Board of Appeals Decision, Docket #2306; and
6. Memorandum from the Planning Department from the Town from Jennifer Raitt, Director, Department of Planning and Community Development dated June 17, 2019

In addition, the Board was in receipt of the following correspondence from the public:

- E-mail from Chris Loreti to Christian Klein, Chair of the Zoning Board of Appeals, "Correction: Docket 3624, 400-402 Massachusetts Avenue", dated June 19, 2020.
- E-mail from Chris Loreti to Christian Klein, Chair of the Zoning Board of Appeals, "Additional Comments: Docket 3624, 400-402 Massachusetts Avenue", dated June 22, 2020.
- E-mail from Chris Loreti to Christian Klein, Chair of the Zoning Board of Appeals, re Additional Comments: Docket 3624, 400-402 Massachusetts Avenue, dated June 23, 2020.
- E-mail from Patricia Worden to Christian Klein, Chair of the Zoning Board of Appeals, "hearing, 400-402 Massachusetts Av.", dated June 23, 2020.

The evidence introduced at the hearing indicated that the 1980 Zoning Decision provided that there be no more than two (2) apartments developed on the site and that there be at least one (1) onsite parking space per dwelling unit to be set aside for apartment tenants and that the entrance to the basement space be from the front of the building with an open stairway leading down from the inside entrance and clearly marked as to how to enter the basement.

Petitioner now seeks to amend that Special Permit in accordance with the new mixed use bylaw for the Town requesting that the building be allowed to have one (1) office unit and four (4) residential units in accordance with the plans submitted with its zoning application and that the requested relief be transferred to the Arlington Redevelopment Board since the ARB has the primary jurisdiction to hear the appeal.

The property contains 4,756 square feet and is nonconforming with respect to the terms of the present zoning bylaw with regard to front yard setback, side yard setback and there is no useable open space.

There are presently two (2) parking spaces at the property and Petitioner proposes a total of six (6) parking spaces while the required parking spaces would be 6.1 parking spaces in accordance with the zoning bylaw.

The Petitioner's evidence during the course of the Hearing indicated that the relief sought before the ARB related to a Special Permit issued by the Zoning Board on April 9, 1980 in Docket No. 2306 in accordance with Section 5-26 (Districts and Uses) of the Zoning Bylaw.

The Zoning Board's 1980 Decision limited the number of apartments in the structure to two (2). Since the date of the prior decision the Zoning Bylaw has been amended to allow for a mixed use development in the B1 Zoning District in which the property is located.

The evidence introduced by Petitioner indicated that Petitioner's requested relief relates to an increase in the number of allowable residential units in the building from two to four with the intent to maintain one office unit.

The total gross floor area (GFA) would remain the same.

The structure is non-conforming with respect to the Zoning Bylaw's lot size, floor area ratio, lot area per dwelling, front, side yards depths, usable open space and parking space minimum requirements contained in the Bylaw.

As a result of the increase in the requested number of residential units, the proposal would increase the non-conformity to the lot area per dwelling unit by reducing it from 2032 square feet per unit to 921 square feet per unit.

Petitioner proposes an increase in the number of parking spaces to six, which would meet the 1980 Special Permit's requirements of one parking space per one bedroom residential unit.

Petitioner indicated that if there is any increase in the number of bedrooms per unit, then the Petitioner, at the time of the Hearing before the ARB could request a parking reduction in the mixed use district subject to a "Transportation Demand Management Plan" (TDM).

FINDINGS OF FACT AND DECISION OF THE BOARD

The Board finds that amending the existing Special Permit (Docket #2306, issued April 9, 1980) to allow the Arlington Redevelopment Board to openly and fully review a proposed application for mixed use on the property is appropriate. The Board finds that the original conditions for granting the Special Permit can be reconsidered during Environmental Design Review under Section 3.4 of the Zoning Bylaw and should be withdrawn in the event that the Redevelopment Board finds that the Special Permit Decision Criteria of Sections 3.3.3 and 3.4 would be met by the mixed-use proposal. In addition, the Board finds that if a proposed application for mixed-use is not approved by the Redevelopment Board, the existing use of the property continues to be appropriate, and the 1980 Special Permit conditions should remain in effect.

The applicant seeks to amend the current special permit for this use in order to allow for a mixed-use development under the Zoning Bylaw. Under Section 3.4.2A and G the special permit "shall be acted upon by in accordance with the environmental design review procedures and standards of this Section 3.4." This Board does not have the authority to issue a special permit that would authorize the applicant's project. Indeed, if the property were not already subject to a special permit issued 30 years ago for a different use, the applicant would have filed its request for a Special Permit with the Redevelopment Board and we would not have been involved at all.

The property is, however, subject to an existing Special Permit that allows for two apartments and three offices on the site and makes provision for parking spaces for the dwelling units, entrances to the offices, and lighting and mechanical ventilation for basement offices. Refer to "In the matter of Frank Pacuito, Docket No. 2306 Opinion of the Board", dated April 9, 1980. This Special Permit is under the continuing jurisdiction of the Zoning Board of Appeals. If it remained in effect, and if the Redevelopment Board granted a Special Permit for the use that the applicant proposes today, the property would be subject to conflicting conditions.

Under the Zoning Bylaw, the Redevelopment Board is the Special Permit Granting Authority for this site and proposed use. It has the final say on whether the proposed project is consistent with the provisions of the Zoning Bylaw relating to Special Permits. Certainly the two Boards should not engage in duplicative review, particularly because approval of the application may involve discretionary conditions that must be prescribed by one board or the other.

The Redevelopment Board will, of course, grant a special permit only after finding that all applicable decision criteria have been met. If the Redevelopment Board approves the project, then the four conditions of the 1980 Special Permit must be withdrawn to avoid conflicting requirements. If the Redevelopment Board rejects the proposed project, then the Board of Appeals considers continuation of the current use under 1980 Special Permit's conditions to be appropriate. In order to facilitate review of the applicant's proposal by the Redevelopment Board, the jurisdiction of the Zoning Board of Appeals must be suspended during the pendency of proceedings before the Redevelopment Board.

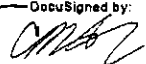
At the close of the Hearing, the Board voted unanimously to grant the Petitioner's request to amend the existing Special Permit (Docket #2306, issued April 9, 1980) with the following conditions:


- 1. Pending the issuance of a Special Permit under Environmental Design Review by the Arlington Redevelopment Board, the four conditions set forth in the original decision are withdrawn.**

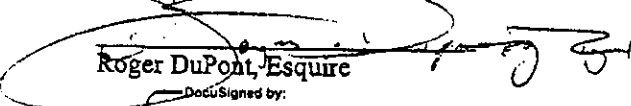
2. Pending the issuance of a Special Permit under Environmental Design Review by the Arlington Redevelopment Board, the Zoning Board of Appeals shall terminate jurisdiction with respect to the original Special Permit grant.
3. Should the Applicant fail to secure a Special Permit from the Arlington Redevelopment Board, the above conditions are null and void, and the existing Special Permit shall remain in full force and effect.


The Inspector of Building is hereby notified that he is to monitor the site and should proceed with appropriate enforcement procedures at any time he determines that violations are present. The Inspector of Buildings shall proceed under Section 3.1 of the Zoning Bylaw of the Town of Arlington, Massachusetts and the provisions of Chapter 40A Section 21D of the Massachusetts General Laws, and institute non-criminal complaints. If necessary, the Inspector of Buildings may also approve and institute appropriate criminal action, also in accordance with Section 3.1.

The Board hereby makes a detailed record of all its proceedings relative to this appeal; sets forth the reasons for its decision and finding; directs that this record be filed in the office of the Redevelopment Board and in the office of the Town Clerk and shall be a public record, and that notice of this decision be made forthwith to each party in interest. Appeals to this decision, if any, shall be made pursuant to Section 17 of the Zoning Act (Massachusetts General Laws, Chapter 40A), and shall be filed within twenty days after the date of filing of such decision in the Office of the Town Clerk.

DocuSigned by:

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 Christian Klein RA, Chair

DocuSigned by:

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 Patrick Hanlon, Vice Chair

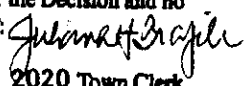

 Roger DuPont, Esquire

DocuSigned by:

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 Kevin Mills

DocuSigned by:

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 Stephen Revilak



I hereby certify this is a True Copy of the Decision of the Arlington Zoning Board of Appeals as filed with the Office of the Town Clerk of the Town of Arlington, Massachusetts on JULY 17, 2020 and that 20 days have elapsed after the Decision and no Appeal has been filed. ATTEST: 

Date of Issue SEPTEMBER 29, 2020 Town Clerk

OPINION OF THE BOARD

This is an application by Frank Pacuito of Winchester for Special Permit pursuant to Section 5.04 (Use Regulations) Section 8.11 (Municipal Parking Lots) and Section 8.12 (Parking and Loading Space Standards) of the Zoning By-Law for the Town of Arlington. Hearing was held on March 25, 1980 after statutory notice. No one opposed the application. Mr. Pacuito was represented by Atty. Richard Keshian of Arlington.

The Department of Planning & Community Development recommended granting Special Permits.

FINDINGS OF FACT

1. The applicant owns the property located at 400-402 Massachusetts Avenue, Arlington which lies within the B1 Zoning District.
2. Building on the property was damaged by fire in 1978 and applicant plans to renovate for combined office and apartment use.
3. Building will when renovated consist of two-one bedroom apartments on the second floor, two professional offices on the first floor and one professional office in a portion of the basement.

The building has been an eyesore and a blight on the Town for several years since damaged by fire and has become a veritable dumping ground for various types of debris.

The Board feels that conditions for granting a Special Permit have been established by the petition.

DECISION

Accordingly, the Board unanimously votes to grant the Special Permit with certain conditions.

1. No more than two apartments are developed on the site.
2. At least one on-site parking space per dwelling unit is set aside for apartment tenants.
3. Entrance to basement office be from front of building with open stairway leading down from front inside entrance and clearly marked as to how to enter basement office.
4. All basement offices must have outside lighting and mechanical ventilation.

The Board hereby makes a detailed record of all its proceedings relative to this petition; sets forth the reasons for its decisions and its findings; directs that this record be filed in the Office of the Town Clerk and shall be a public record and that notice of this decision be made forthwith to each party in interest.

TOWN OF ARLINGTON
APR 10 1980
PLANNING & COMMUNITY
DEVELOPMENT DEPARTMENT



TOWN OF ARLINGTON
MASSACHUSETTS 02174
643-6700
DEPARTMENT of PLANNING and
COMMUNITY DEVELOPMENT

MEMO TO: Zoning Board of Appeals
FROM: Dept. of Planning and Community Development
DATE: March 25, 1980
SUBJECT: Docket No. 2306 - 400-402 Massachusetts Avenue

The Department of Planning and Community Development has reviewed the petition of Frank Pasciuto to rennovate the property at 400-402 Massachusetts Avenue for combined office and apartment use, or alternatively for office use only. The building, which was damaged by fire in 1978, is noted in the Mill Brook Valley Historic Survey along with the adjoining property as follows:

400-2 William Clark House. Federal, 1977

The home of several generations of the Clark family, this house is now much altered by a coat of stucco and the loss of its original doorway and window details; but it retains its handsome proportions and central location at the foot of Franklin Street, which was constructed some years after the house itself was built. In the 1920's it housed a small candy factory and shop.

404 Carriage shop. Federal, 1799 or later

This structure was the shop of Wm. Clark & Co., harness makers and carriage trimmers and painters. It has been greatly altered and converted into a multi-family dwelling, but in its relationship to the William Clark House it still reminds us of the close union of a 19th century family's craft industry to their home life.

This property in the B1 zoning district contains 4,588 square feet of land.

For mixed office and residential uses, special paints would be required under Section 5.04, Use 6.22 (Offices in building constructed as residence), and Use 8.19 (accessory apartments). Complete office use would still require a special permit under Use 6.22. Either alternative would require a special permit under 8.11 or 8.12(n) for

one parking space. It is this department's understanding that the owner prefers the mixed-use alternative.

The special permits for both alternatives under Section 5.04 are evaluated according to Section 10.11 as follows:

1. The uses requested are listed in the Table of Use Regulations
2. Office and apartment uses are in demand and will contribute to Arlington's economy, and to the serious undersupply of housing.
3. Located on Massachusetts Avenue, the requested uses under either alternative will not create undue traffic congestion. Access to the site is further facilitated by its corner location which permits cars to enter and exit from the side street, rather than directly onto Massachusetts Avenue. Regarding parking, each alternative requires five parking spaces calculated as follows:

Office Plus Apartments

Bsmt. gfa = 260 s.f.
 1st Fl. gfa = 1654 s.f.
1914 s.f.-g.f.a.

Office parking is $1914/750 = 2.55$ spaces
 Apartment parking is $2 \times 1.15^* = 2.30$
 spaces for a total of 4.85 spaces

Offices Only

Bsmt.gfa = 260 s.f.
 1st.Fl. gfa = 1654 s.f.
 2nd.Fl. gfa = 1494 s.f.
3408 s.f.

Parking required is
 $3408/750$, or 4.53 spaces

* Assumes 2 one-bedroom apartments

Since fractions of spaces are rounded off in accordance with Section 8.04, both alternatives require five spaces. The site plan indicates expansion of the existing parking area from two-to four spaces. Thus one more space is required.

It is not recommended that a 20 percent reduction in spaces be granted by special permit under Section 8.12(n) since the parking standard for office space is not stringent; thus, the small overall requirement for only five spaces should closely approximate, or be slightly less than actual parking demand.

Substitution of one space within a municipal parking lot is warranted provided it is office parking. Office visitor parking is short-term (one- to two hours); whereas residential parking is long-term including overnight. Municipal parking in the area, such as the Broadway Plaza, is short-term and thus would not work as residential parking. It should be noted that the Broadway Plaza and the Russell Common lots are 350 ft. and 900 ft. respectively from the site; therefore, they are within the 1,000 feet required by Section 8.11.

4. The requested use on a previously developed lot will not overload any utility or drainage system.
5. Article 11 does not apply.
6. The requested use will not impair the character of the district provided there are not more than two apartments on this small lot. Use 8.19 allows up to three accessory apartments in accordance with the residential standards for the district. For the B1 district, each dwelling unit requires 2,500 square feet of lot area. Therefore, the density control in this situation restricts the number of apartments to two. Office use is ideally suited for this site which is in a transition area between the Central Business District and residential neighborhoods. The office/apartment mixture duplicates the building's use prior to the 1978 fire when a dentist was on the first floor and there were apartments above.
7. The proposed offices and apartments will, in fact, bring back a previous use to this neighborhood, and as such will not create an excess of such uses.

In conclusion, the Department recommends that the special permit be granted under Section 5.04, Use 6.22 and 8.19; and under Section 8.11 for parking, with the following conditions:

1. No more than two apartments are developed on the site.
2. At least one on-site parking space per dwelling unit is set aside for apartment tenants if the building includes apartments.

JMB/md

B1 ^{4,605}
~~4,500~~ sq ft level
5 units / 2 apts
8 rooms



BOARDS OF APPEALS

Town of Arlington

Arlington, Massachusetts 02174

Planning
Docket 2306

643-6700

TOWN OF ARLINGTON
MAR 17 1980

LEGAL NOTICE

Notice is herewith given in accordance with the provisions of Section 10.10,e,3 of the Zoning By-Law that there has been filed by Frank Pasciuto of Winchester, Massachusetts on February 28, 1980 a Petition seeking permission to use the premises located at 400-402 Massachusetts Avenue, Arlington, Massachusetts for mixed residential (second floor) and offices (basement and first floor) or in the alternative, all office use. Said proposal would require a Special Permit from Zoning By-Law under Section 5.04 (Use Regulations) Paragraph 6.22 and Paragraph 8.19 and Section 8.11 (Municipal Parking Lots) and Section 8.12 (Parking and Loading Space Standards) Paragraph N of the Zoning By-Law for the Town of Arlington.

Hearing in regard to the said Petition will be held in the Hearing Room, located on the second floor of the Robbins Town Hall, Arlington, Massachusetts on Tuesday evening, March 25, 1980 at 8:30 O'Clock P.M.

ZONING BOARD OF APPEALS

Harold C. Knight
Secretary

Docket 2306 400-402 Mass. Ave.

Calculate GFA From Floor Plans

$$\text{First Floor } 38.75 \times 49.7 = 1920$$

$$\text{Less: } 14 \times 12 = 144$$

$$4 \times 12.5 = 50$$

$$4.7 \times 15.25 = 72$$

$$\underline{266}$$

$$1920$$

$$\underline{-266}$$

$$1654$$

$$\text{Total-1st. Floor GFA} = 1654 \#$$

$$\text{Basement } 17.5' \times 15' = 260 \#$$

$$\text{Second Floor } 38.75 \times 49.7 = 1920$$

$$\text{Less: } 12 \times 12 = 144$$

$$10.8 \times 17.2 = 186$$

$$4.7 \times 20.4 = 96$$

$$\underline{426}$$

$$1920$$

$$\underline{-426}$$

$$1494 \#$$

$$\text{Total-2nd Floor GFA} = 1494 \#$$

$$\text{For First+Second, } \approx 3100 \# ;$$

$$\text{Lot Area} = 4588, \text{ S.F.}$$

$$\text{Max Number of dwelling units} = 4588 / 2500 \approx 2 \text{ units.}$$

Parking:

a.) All Office

$$\text{Bsmt. } 260$$

$$\text{1st } 1654$$

$$\text{2nd. } 1494$$

$$\underline{3408 \#}$$

b.) Mixed Office w/ Apts.

$$\text{Bsmt } 260$$

$$\text{1st. } 1654$$

$$1914 \# \div 750 = 2.55 \text{ spaces.}$$

$$\text{Pkg. demand} = 4.53 \text{ pkg. spaces}$$

2nd Floor Apts, Bath-1BR

$$2 \times 1.15$$

$$= 2.30 \text{ spaces.}$$

$$\frac{388 \text{ of } 435}{4.85 \text{ spaces.}}$$

S.P. 5.14, PG. 22 - Office i buildg originally resided
P8.19 - Up to 3 dr. - 2 units.

S.P. Sec. 8.11 - Substitute of spaces with ^{of principal lot} 1000' of int.

8.12 (n) reduction of phy space to 80% of min char conditions ^{if} to the use
will reasonably justify reduction.



TOWN OF ARLINGTON

MASSACHUSETTS 02174

643-6700

DEPARTMENT of PLANNING and COMMUNITY DEVELOPMENT

MEMO TO: Zoning Board of Appeals

FROM: Dept. of Planning and Community Development

DATE: March 25, 1980

SUBJECT: Docket No. 2306 - 400-402 Massachusetts Avenue

The Department of Planning and Community Development has reviewed the petition of Frank Pasciuto to rennovate the property at 400-402 Massachusetts Avenue for combined office and apartment use, or alternatively for office use only. The building, which was damaged by fire in 1978, is noted in the Mill Brook Valley Historic Survey along with the adjoining property as follows:

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March 25, 1980

one parking space. It is this department's understanding that the owner prefers the mixed-use alternative.

The special permits for both alternatives under Section 5.04 are evaluated according to Section 10.11 as follows:

1. The uses requested are listed in the Table of Use Regulations
2. Office and apartment uses are in demand and will contribute to Arlington's economy, and to the serious undersupply of housing.
3. Located on Massachusetts Avenue, the requested uses under either alternative will not create undue traffic congestion. Access to the site is further facilitated by its corner location which permits cars to enter and exit from the side street, rather than directly onto Massachusetts Avenue. Regarding parking, each alternative requires five parking spaces calculated as follows:

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4. The requested use on a previously developed lot will not overload any utility or drainage system.
5. Article 11 does not apply.
6. The requested use will not impair the character of the district provided there are not more than two apartments on this small lot. Use 8.19 allows up to three accessory apartments in accordance with the residential standards for the district. For the B1 district, each dwelling unit requires 2,500 square feet of lot area. Therefore, the density control in this situation restricts the number of apartments to two. Office use is ideally suited for this site which is in a transition area between the Central Business District and residential neighborhoods. The office/apartment mixture duplicates the building's use prior to the 1978 fire when a dentist was on the first floor and there were apartments above.
7. The proposed offices and apartments will, in fact, bring back a previous use to this neighborhood, and as such will not create an excess of such uses.

In conclusion, the Department recommends that the special permit be granted under Section 5.04, Use 6.22 and 8.19; and under Section 8.11 for parking, with the following conditions:

1. No more than two apartments are developed on the site.
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JMB/md

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March 25, 1980

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2. At least one on-site parking space per dwelling unit is set aside for apartment tenants if the building includes apartments.

JMB/md



Town of Arlington, Massachusetts

Update on Special Permits issued by the Redevelopment Board 2016-2020

Summary:

7:45 p.m. Board will receive update on special permits issued by the Redevelopment Board from 2016-2020.

ATTACHMENTS:

Type	File Name	Description
▢ Reference Material	Agenda_Item_2_-_Status_of_Special_Permits_granted_by_ARB_Memo_02-18-21.pdf	Status of Special Permits granted by ARB Memo 02-18-21



TOWN OF ARLINGTON
DEPARTMENT OF PLANNING and
COMMUNITY DEVELOPMENT

TOWN HALL, 730 MASSACHUSETTS AVENUE
ARLINGTON, MASSACHUSETTS 02476
TELEPHONE 781-316-3090

MEMORANDUM

To: Arlington Redevelopment Board

From: Jennifer Raitt, Director of Planning and Community Development

Date: February 18, 2021

RE: Status of Special Permits granted by the Arlington Redevelopment Board 2016-2021

Please see the information below regarding Environmental Design Review Special Permits issued by the Board from 2016 through 2020. The table provides the address of the project and the status of the project.

	Address	Status
2020	473 Mass Ave.	Signage installed
	882-892 Mass. Ave.*	22 residential and one commercial unit approved, construction in progress
	434 Mass Ave.	Signage installed
	93 Broadway - reopened	School addition approved
	476 Mass Ave	Renovation approved
	1500 Mass. Ave.*	Four residential and two business units approved
	23 Broadway	Marijuana retailer approved
	880 Mass Ave	Signage installed
	86 River Street	Signage installed
2019	1386 Mass Ave.	Apothca opened, signage installed
	1314 Mass Ave	Business under construction
	108 Summer Street	Foodlink construction in progress
	833 Mass Ave.	Signage installed
	1207-1211 Mass Ave*	Hotel with restaurant approved
	189-191 Broadway	Business expanded, signage installed

Address		Status
2018	20-22 Mass Ave	Signage installed
	795-807 Mass Ave	Signage installed
	925-927 Mass Ave	Three residential and three businesses constructed
	190 -192 Mass Ave.	Adventure Pub opened, signage installed
	180 Mass Ave.	Signage installed
	30 Park Ave.	Business opened, signage installed
	167A Mass Ave.	Signage installed
2017	887 Mass Ave.*	Five residential units and one preschool constructed
	483 Summer Street*	Nine residential units and one office constructed
	29 Mass Ave	Change of use to Fitness Center
	635 Mass Ave	Signage installed
	478 Mass Ave.	Business did not open
	87-89 Broadway	Building was not constructed. Applicant returned with proposal to expand school which was approved.
	444 Mass Ave	Signage installed
	19 Mass Ave	Hotel constructed 21 additional rooms in three-story addition
2016	248 Mass Ave	Three-family constructed
	6 Schouler Court	Upbeat Cycling opened, signage installed
	93 Broadway	School constructed
	11 Water Street	Center opened
	30-50 Mill Street	Business did not open
	117 Broadway*	Construction in progress
	19R Park Ave	Construction in progress
	190 Massachusetts Ave.	Restaurant opened, Signage installed
	321 Broadway	Restaurant opened, Signage installed

*indicates mixed-use

project



Town of Arlington, Massachusetts

Warrant Article Public Hearings

Summary:

8:00 p.m. A brief introductory presentation will be provided for each article

Board members and members of the public will be provided time to ask questions and comment for each article

Warrant Article Public Hearings

2021 Annual Town Meeting

ARTICLE 39

ZONING BYLAW AMENDMENT/ CLARIFICATION OF DEFINITION OF MIXED USE

To see if the Town will vote to amend the definition of Mixed Use in the Zoning Bylaw to clarify that as enacted by Town Meeting, land uses individually prohibited in any particular zoning district are also prohibited as part of Mixed Use developments in the same zoning district; or take any action related thereto.

(Inserted at the request of Christopher Loreti and 10 registered voters)

ARTICLE 40

ZONING BYLAW AMENDMENT/CONVERSION OF COMMERCIAL TO RESIDENTIAL

To see if the Town will vote to amend the Zoning Bylaw in Section 5.2.4, by inserting in the last sentence of said section, after the word footprint, the words "if allowed by special permit" and by inserting, after the words residential use, the words "provided that the addition or expansion is for affordable housing" so that said sentence will read as follows: In the case of an existing commercial use, the addition or expansion of residential use within the building footprint if allowed by special permit shall not require adherence to setback regulations for residential uses, provided that the addition or expansion is for affordable housing, even if the residential use becomes the principal use of the building; or take any action related thereto.

(Inserted at the request of John L. Worden III and 10 registered voters)

ARTICLE 34

ZONING BYLAW AMENDMENT/ MARIJUANA USES

To see if the Town will vote to amend the Zoning Bylaw to allow Marijuana Delivery-Only Retailers and other amendments for consistency with the state regulations for the adult use of marijuana and the medical use of marijuana by amending SECTION 2 DEFINITIONS, SECTION 5.5.3. USE REGULATIONS FOR BUSINESS DISTRICTS, SECTION 5.6.3. USE REGULATIONS FOR MU, PUD, I, T, AND OS DISTRICTS, and SECTION 8.3 STANDARDS FOR MARIJUANA USES; or take any action related thereto.

(Inserted at the request of the Redevelopment Board)

ARTICLE 28

ZONING BYLAW AMENDMENT/ AFFORDABLE HOUSING REQUIREMENTS

To see if the Town will vote to amend the Zoning Bylaw to increase the time during which the affordable housing requirements apply from a two-year period to a three-year period in alignment with G.L. c.40A § 9 by amending SECTION 8.2.2. APPLICABILITY; or take any action related thereto.

(Inserted at the request of the Redevelopment Board)

ARTICLE 29

ZONING BYLAW AMENDMENT/ APARTMENT CONVERSION

To see if the Town will vote to amend the Zoning Bylaw to include a definition of apartment conversion by amending SECTION 2 DEFINITIONS; or take any action related thereto.

(Inserted at the request of the Redevelopment Board)

ARTICLE 30

ZONING BYLAW AMENDMENT/ GROSS FLOOR AREA

To see if the Town will vote to amend the Zoning Bylaw to clarify how landscaped and usable open space is calculated relative to gross floor area by amending SECTION 5.3.22. GROSS FLOOR AREA to add subsection C; or take any action related thereto.

(Inserted at the request of the Redevelopment Board)

ARTICLE 31

ZONING BYLAW AMENDMENT/ PROHIBITED USES

To see if the Town will vote to amend the Zoning Bylaw to indicate that uses without a "Y" or "SP" in the Tables of Uses are prohibited by amending SECTION 5.2.2. PROHIBITED USES to add subsection C; or take any action related thereto.

(Inserted at the request of the Redevelopment Board)

ARTICLE 32

ZONING BYLAW AMENDMENT/ OTHER DISTRICTS DIMENSIONAL AND DENSITY REGULATIONS

To see if the Town will vote to amend the Zoning Bylaw to include the legend for tables by amending SECTION 5.6.2. DIMENSIONAL AND DENSITY REGULATIONS; or take any action related thereto.

(Inserted at the request of the Redevelopment Board)

ARTICLE 33

ZONING BYLAW AMENDMENT/ ADMINISTRATIVE AMENDMENTS

To see if the Town will vote to amend the Zoning Bylaw to make the following administrative corrections;

1. Correcting references to Board of Selectmen in subparagraph B of SECTION 3.1.4. PENALTY and in Section 3.2.1. ESTABLISHMENT;

2. Removing gendered terms in subparagraph A of SECTION 3.2.3. RULES AND REGULATIONS and subparagraph D of SECTION 6.2.7. NONCONFORMING SIGNS;

3. Correcting reference to August, 1975 in subparagraphs C and D in SECTION 5.4.2. DIMENSIONAL AND DENSITY REQUIREMENTS;

4. Correcting reference to Section 7 in SECTION 3.3.4.A SPECIAL PERMIT CONDITIONS; and

5. Correcting reference to seven feet three inches in subsection A(1) in SECTION 5.3.22. APPLICABILITY; or take any action related thereto.

(Inserted at the request of the Redevelopment Board)

ATTACHMENTS:

Type	File Name	Description
Reference Material	Agenda_Item_3A_Memo_to_ARB_from_DPCD_re_Warrant_Articles_28_29_30_31_32_33_34_40_.pdf	Memo to ARB from DPCD re Warrant Articles 28, 29, 30, 31, 32, 33, 34, 40
Reference Material	Agenda_Item_3B_-_Article_39_-_Loreti_Supporting_Material.pdf	Article 39 - Loreti Supporting Material
Reference Material	Agenda_Item_3C_-_Article_40_-_Worden_Supporting_Material.pdf	Article 40 - Worden Supporting Material



TOWN OF ARLINGTON
DEPARTMENT OF PLANNING and
COMMUNITY DEVELOPMENT

TOWN HALL, 730 MASSACHUSETTS AVENUE
ARLINGTON, MASSACHUSETTS 02476
TELEPHONE 781-316-3090

MEMORANDUM

To: Arlington Redevelopment Board

From: Jennifer Raitt, Director, Planning and Community Development
Erin Zwirko, Assistant Director, Planning and Community Development
Kelly Lynema, Senior Planner, Planning and Community Development

Date: February 25, 2021

RE: Review of Warrant Articles 28, 29, 30, 31, 32, 33, 34, 39, and 40 for 2021 Annual Town Meeting

Staff reviewed the following Warrant Articles to provide the Board with information for further consideration as part of the public hearing and review process. There are nine articles with public hearings for the evening of March 1st. This memo provides information about each article being reviewed, including any additional information provided by the petitioner, and additional factors for the Board's consideration.

A Warrant Article to amend the Zoning Bylaw has been refiled by the Redevelopment Board on behalf of Christopher Loreti and 10 registered voters:

Article 39 ZONING BYLAW AMENDMENT/ CLARIFICATION OF DEFINITION OF MIXED-USE

To see if the Town will vote to amend the definition of Mixed Use in the Zoning Bylaw to clarify that as enacted by Town Meeting, land uses individually prohibited in any particular zoning district are also prohibited as part of Mixed Use developments in the same zoning district; or take any action related thereto.

(Inserted at the request of the Redevelopment Board on behalf of Christopher Loreti and 10 registered voters)

Mr. Loreti provides the following amendment:

That the definition of "Mixed-Use" in Section 2 of the Town of Arlington Zoning Bylaw is hereby amended by inserting immediately before the concluding period the words:

"provided that any such distinct land uses are not otherwise prohibited by this bylaw as individual land uses in the same Zoning District" such that the revised definition reads in its entirety:

Mixed-Use: A combination of two or more distinct land uses, such as commercial, lodging, research, cultural, artistic/creative production, artisanal fabrication, residential in a single multi-story structure to maximize space usage and promote a vibrant, pedestrian-oriented live-work environment provided that any such distinct land uses are not otherwise prohibited by this bylaw as individual land uses in the same Zoning District.

The staff provides the following additional considerations relevant to this article:

- **Predictability of uses** – Requiring that the uses in a mixed-use structure are only those that are allowed in the applicable Zoning District may provide some predictability in any mixed-use proposal. This may be seen as a benefit for developers and abutters. While predictability is fundamentally important as part of any permitting process, this Warrant Article could limit flexibility in creating beneficial and creative projects that also fulfill community goals. Mixed-use projects are reviewed by the Redevelopment Board through a discretionary Special Permit process. Compatibility of proposed uses is considered in relationship to the surrounding neighborhood as part of that process. Further, the Town regulates vacant commercial properties. This Warrant Article could have a negative impact on both filling those spaces and expanding them by creating more use restrictions.
- **Intent versus impact** – As described in Town Counsel’s August 31, 2020 memo on the Scope and Limits of ARB Authority¹, the ARB is charged with reviewing commercial, industrial, larger scale residential, or mixed-use proposals “which have a substantial impact on the character of town and on traffic, utilities, and property values, thereby affecting the public health, safety, and general welfare.” As such, the Board is provided certain flexibility in interpreting the Zoning Bylaw in exchange for applying the more rigorous scrutiny of Environmental Design Review to proposals along Arlington’s commercial corridors. While the intent of Mr. Loreti’s amendment is to provide the predictability as described in the bullet above, the impact would be to limit the ARB’s ability to achieve a broader range of community goals in its review of development proposals. The ability to review and guide the development of mixed-use proposals enables the ARB to make progress toward a range of Town goals, including economic, housing development, and transportation goals, which is clearly outlined by the American Planning Association in a recent publication on mixed use development². Providing housing units as part of a mixed-use development increases the economic viability of developments, allows the town to meet consumer demand by integrating a variety of uses into a single development project, improves the walkability of Arlington’s commercial districts, and allows with some constraints the ARB to incorporate locally strong performing sectors into projects.
- **Very few instances where uses of underlying districts could potentially be in conflict** – The majority of Arlington’s Business Zoning Districts are small, some only containing two parcels of land, and primarily located along the Massachusetts Avenue and Broadway corridors. There are nine instances where a neighborhood block of on average 390 linear feet (approximately 4 to 5 buildings) is split by two or more different Business Zoning Districts:
 - Mass Ave between Clark Street and Forest Street (B2 and B4)
 - Mass Ave between Fessenden Road and Quincy Street (B1 and B4);
 - Mass Ave between Quincy Street and Robbins Road (B1 and B4);
 - Both sides of Mass Ave between Pond Lane and Wyman Street (B1 and B2);
 - Mass Ave between Wyman Terrace and Linwood Street (B1, B2A, and B4);
 - Mass Ave between Foster Street and Tufts Street (B1 and B4);
 - Mass Ave at Lafayette Street (B1, B2A, and B4); and
 - Broadway at Sunnyside Avenue (B2A and B4).

¹ Memo from Doug Heim, Town Counsel, *Opinion Re: Scope and Limits of ARB Authority*. 8/13/2020: <https://www.arlingtonma.gov/home/showpublisheddocument?id=52673>

² American Planning Association, *Benefits of Compact, Mixed Use Development*. Accessed 2/23/21: <https://planning.org/knowledgebase/compactbenefits/>

These blocks contain multiple lots and are owned by multiple property owners. Assembling parcels for potentially larger-scale development is challenging and not always possible, further limiting the instances of potentially conflict of uses. Note there are instances where neighborhood blocks are split by Residential and Business Districts; mixed-use is not an allowed use in the Residential Districts.

In the instances noted above, B1 differs the most from B4, but B2A allows more uses and the most different uses in comparison to B1 or B4. The most different uses could be considered auto repair shop (allowed by Special Permit in the B4 district) and a funeral home (allowed by-right in the B1 district, allowed by Special Permit in the B2A district, and not allowed in the B4 district). This combination of uses, although not expressly permitted in these districts could be considered mixed-use under the existing Zoning Bylaw. However, because this is always a Special Permit process as noted in the point above, the Board would need to make a determination that would allow such a combination of uses to proceed while staying in compliance with the Special Permit criteria that protects the integrity of character of the Zoning District or neighboring Districts established as part of the Environmental Design Review.

- **Consistency with the Master Plan** – The Master Plan recommends supporting vibrant commercial areas by encouraging mixed-use redevelopment. By limiting the uses that could be considered as part of a mixed-use development, this Warrant Article is not consistent with the goals of the Master Plan. Further limiting development and mixture of uses is not in keeping with the Town's desire to increase its tax base; this Warrant Article could have a deleterious effect on future development in Arlington.

Amend SECTION 2:

Mixed-Use: A combination of two or more distinct land uses, such as commercial, lodging, research, cultural, artistic/creative production, artisanal fabrication, residential in a single multi-story structure to maximum space usage and promote a vibrant, pedestrian live-work environment provided that any such distinct land uses are not otherwise prohibited by this bylaw as individual land uses in the same Zoning District.

A Warrant Article to amend the Zoning Bylaw has been refiled by the Redevelopment Board on behalf of John L. Worden III and 10 registered voters:

Article 40 ZONING BYLAW AMENDMENT/ CONVERSION OF COMMERCIAL TO RESIDENTIAL

To see if the Town will vote to amend the Zoning Bylaw in Section 5.2.4, by inserting in the last sentence of said section, after the word footprint, the words “if allowed by special permit” and by inserting, after the words residential use, the words “provided that the addition or expansion is for affordable housing” so that said sentence will read as follows: In the case of an existing commercial use, the addition or expansion of residential use within the building footprint if allowed by special permit shall not require adherence to setback regulations for residential uses, provided that the addition or expansion is for affordable housing, even if the residential use becomes the principal use of the building; or take any action related thereto.

(Inserted at the request of the Redevelopment Board on behalf of John L.
Worden III and 10 registered voters)

Mr. Worden’s proposed amendment has been carried over after deferral from 2020 Annual Town Meeting. The proposed amendment is embedded in the Warrant Article. He provided the same commentary with his article submission as was provided in 2020:

Under the law as it presently stands, a mixed-use building, with its minimal setbacks could be converted entirely into residential uses, by right. Since the only kind of additional housing that Arlington needs is affordable housing, the ability to do that would be limited under this amendment, and subject to public review.

The staff provides the following additional considerations relevant to this article:

- **Chilling effect on property reinvestment** – This Warrant Article mandates the creation of only affordable housing in certain mixed-use developments. Unfortunately, it is unclear how this achieves either Arlington’s affordable housing or commercial development goals. Without any incentives, this Warrant Article would appear to deter rather than encourage the creation of affordable housing. This chilling effect is caused by limiting the flexibility property owners currently have in reinvesting in properties in Arlington. If the only option available for residential space is to create affordable housing, a property owner may not be able to balance a pro forma to see a return on their investment in their property. Small-scale development of any type is challenging and costly, particularly creating a development with only affordable housing units. Further, the added requirement to seek a Special Permit creates another barrier to property owners reinvesting in buildings in Arlington, increasing time and costs. Lastly, the seemingly mandatory nature of requiring that one to five units of housing must be affordable in most mixed-use development is in direct conflict with the existing Zoning Bylaw’s Inclusionary requirements found in Section 8.2.

The cost of developing affordable housing often exceeds available local and state funding sources, even for projects that only have 10-20% of total housing units designated as affordable. The table below outlines the major categories that comprise the total cost of development and the funding sources that are sometimes available to mitigate those costs.

Cost	Explanation	Funding sources
Land acquisition	Cost of buying the land or property to be (re)developed	Can be eliminated if public land is donated to the developer for the project.
Development costs	Largely determined by market forces. In 2019, these averaged \$205/square foot nationally. ³ In Greater Boston, from 2011-2015, construction costs averaged \$219.12/square foot for for-profit housing developers and \$255.37/square foot for non-profit housing developers. ⁴	Debt, which is repaid after housing is rented or sold, and public subsidies. Construction costs can be reduced if the special permit granting authority reduces development requirements such as parking minimums and other design regulations.
Developer fee	Allocated to paying developer and staff for the work of developing a project.	Affordable housing developers can choose to defer a portion of the fee, which is recouped after rents are paid over time.
Other fees (design fees, construction loan interest, permanent financing fees, reserves, project management fees)	Costs of designing, financing, managing, and operating housing and mixed-use development.	Debt, which is repaid after housing is rented or sold, and public subsidies.

Private developers recoup the cost of developing affordable housing in several ways: using inclusionary housing bonuses (e.g., height bonuses, unit bonuses) to offset the costs of providing affordable housing, charging more in rent or purchase costs for housing not designated as affordable housing, and applying for public subsidies (e.g., CDBG funding, CPA funding, housing trust funds, federal tax credits). These development scenarios include primarily market rate housing in order for a private developer to break even on a project, especially given limited public funding resources and subsidies.

- **Creation of affordable housing** – Private entities create and preserve affordable housing in Arlington. In recent years, inclusionary zoning requirements led to the creation of one new rental housing unit at 483 Summer Street, a mixed-use development. Three new affordable units have been approved for 882-892 Mass Ave, another mixed-use development. The Housing Corporation of Arlington (HCA), a mission-driven community development corporation, received Community Preservation Act, Community Development Block Grant, and HOME funds to construct 34 affordable rental units at 19R Park Avenue (Downing Square) and 14 affordable rental units at 117 Broadway, a mixed-use development, both of which are now under construction. HCA previously applied for and received these funds to support the construction of nine affordable rental units at 20 Westminster Avenue, which was granted a Comprehensive Permit by the Zoning Board of Appeals in a R1 District. The Town has made a long-standing and commitment to providing resources to HCA to create and preserve affordable housing. The ARB enforces Inclusionary Zoning requirements as projects are permitted.

³ <https://www.fanniemae.com/media/33131/display>

⁴ <https://www.tbf.org/tbf/51/~media/ACFE028AAA5647188A3B23184C21DAFB.pdf>

- **Creation of non-residential space** – In the mixed-use projects that received a Special Permit by the ARB, non-residential space has been created. The mixed-use building at 887-889 Massachusetts Avenue replaced an abandoned 1,572 square foot vehicular-oriented structure in the B4 district with 2,477 square feet of modern commercial space and residential homes. The renovation of the mixed-use structure at 925-927 Massachusetts Avenue gained three residential units and did not lose any commercial space. At 117 Broadway, Arlington Eats will move from 1,458 square feet to 2,360 square feet on the first floor with affordable homes on the upper floors once the new building is constructed. The mixed-use structure at 1500 Mass Ave will provide commercial space on the main level with four residential units above on a parcel which previously had three residential units and no commercial space. These examples illustrate that mixed-use has created an overall net gain of commercial space in Arlington while adding needed residential units.
- **Consistency with the Master Plan and Housing Production Plan** – Both the Master Plan and Housing Production Plan encourage the creation of more affordable housing, which benefits the community and helps meet local housing needs. This Article is at odds with the Master Plan goal of promoting high value mixed-use development through redevelopment incentives. By requiring that all new or expanded housing must be affordable and requiring a Special Permit, the Warrant Article does not appear to be supporting the varied goals of either plan or ultimately, the stated goal of creating more affordable housing.

Amend SECTION 5.4.2:

5.2.4. Multiple Principal Uses

A lot or structure located in the R6, R7, B1, B2, B2A, B3, B4, B5, PUD, I, MU, and T districts may contain more than one principal use as listed in Section 5.4.3 Use Regulations for Residential Districts, Section 5.5.3 Use Regulations for Business Districts, or Section 5.6.3 Use Regulations for MU, PUD, I, T, and OS Districts. For the purposes of interpretation of this Bylaw, the use containing the largest floor area shall be deemed the principal use and all other uses shall be classified as accessory uses. In the case of an existing commercial use, the addition or expansion of residential use within the building footprint if allowed by special permit shall not require adherence to setback regulations for residential uses, provided that the addition or expansion is for affordable housing, even if the residential use becomes the principal use of the property.

Article 34

ZONING BYLAW AMENDMENT/MARIJUANA USES

To see if the Town will vote to amend the Zoning Bylaw to allow Marijuana Delivery-Only Retailers and other amendments for consistency with the state regulations for the adult use of marijuana and the medical use of marijuana by amending SECTION 2 DEFINITIONS, SECTION 5.5.3. USE REGULATIONS FOR BUSINESS DISTRICTS, SECTION 5.6.3. USE REGULATIONS FOR MU, PUD, I, T, AND OS DISTRICTS, and SECTION 8.3 STANDARDS FOR MARIJUANA USES; or take any action related thereto.

(Inserted at the request of the Redevelopment Board)

Background

On November 30, 2020, the Cannabis Control Commission approved new medical- and adult-use regulations, which brought more parity to the two programs. The regulations approved by the Commission were promulgated and published on January 8, 2021. Due to these updates, Section 2 and Section 8.3 of the Zoning Bylaw require updates. Specifically, the new regulations created a “Marijuana Delivery Operator” license allowing an operator to buy product wholesale from growers and manufacturers, store the product, and sell to their own customers. Marijuana Delivery Operators are not allowed a public retail presence in the same way that Apotheca and Eskar have retail establishments. However, it is important for Arlington to consider zoning amendments to ensure that this new establishment type is reviewed appropriately. Additionally, citations and definitions in the Zoning Bylaw are proposed to be updated.

Delivery Licenses

The regulations create two new types of Delivery licenses, the “Marijuana Courier” and the “Marijuana Delivery Operator License”:

- The Marijuana Courier is substantially the same as the previously existing Delivery-Only License, allowing delivery from Marijuana Retail Stores.
- The Marijuana Delivery Operator License allows a licensee to purchase wholesale products from a cultivator, microbusiness, craft marijuana cooperative, or product manufacturer for resale. This licensee is authorized to sell and deliver products to customers via delivery but cannot operate a retail establishment accessible to the public. A Marijuana Delivery Operator is required to operate a warehouse for the storage of product within the host community. Simply put, a customer may place an order with the Marijuana Delivery Operator, who would package the order and deliver it directly to customers.

Practically speaking, these two licenses may result in three types of delivery activities:

1. Retail Direct Delivery – This type of activity is the direct fulfillment of delivery orders by a Marijuana Retail Establishment through telephone or online orders, similar to placing a delivery order from a restaurant. This type of activity is captured under the Marijuana Courier License (if the owner of the Marijuana Retail Establishment held a retail license and Marijuana Courier license).
2. Third-Party Delivery – This type of delivery activity involves browsing products through a third-party clearinghouse of several different existing establishments, placing an order directly through one of the establishments, and then delivery is facilitated through a third-party, in the same way that Drizly, Grubhub or Uber Eats operates. This type of activity is captured under the Marijuana Courier License.
3. Distribution Center - This type of activity involves browsing products from a wholesaler/reseller and placing an order with the wholesaler/reseller, who then packages and delivers orders separate from a bricks-and-mortar retailer, in the way that Amazon fulfills orders from its sellers. This type of activity is captured under the Marijuana Delivery Operator License.

The regulations make both licenses exclusively available to Economic Empowerment Applicants and Social Equity Program Participants for a minimum of three years. Neither Apothca or Eskar are Economic Empowerment Licensees or Social Equity Program Participants nor are the two establishments seeking the third Host Community Agreement for a retail establishment.

Zoning Amendments – Marijuana Delivery-Only Retailer

The main purpose of the amendment is to define and provide for the new license type, Marijuana Delivery Operator License as described as the distribution center above. The amendment creates a new use “Marijuana Delivery-Only Retailer” and defines it consistent with the regulations. Because this use requires a warehouse type facility to store products, its land use is similar to the existing Marijuana Production Facility use defined and allowed in the Zoning Bylaw. As such, the amendment proposes to allow this use, with a Special Permit from the ARB, in the B4 and Industrial Zoning Districts.

In addition to creating the new use, existing Marijuana Establishment types may receive a “Delivery Endorsement” allowing direct retail sales as described above. Those Marijuana Establishment types include Marijuana Microbusinesses, Marijuana Retailers, and Medical Marijuana Treatment Centers. Please note that the amendment does not provide for a “Delivery Endorsement” for Production Facilities outright; however, if a Production Facility were to operate in Arlington, it is limited to 5,000 square feet of growing space, and if producing non-medical product, it must be licensed as a Microbusiness.

Finally, the third practical use of these new license types is the third-party delivery. This is not described in the zoning amendment as its only land use may be an office. Please note that the state regulations require sale recordation, age verification, product labeling, security and delivery of products, among other stipulations to operate as a Courier, which is handled by the Cannabis Control Commission.

Zoning Amendments – Other Amendments

Two minor amendments are also included in the proposed zoning amendment. The definition of Medical Marijuana Treatment Center was updated to reference the new state regulations at 935 CMR 501.101. Additionally, in Section 8.3.B, a new subparagraph was added to address how buffer distances are measured. The previous version of the regulations did not specify how a buffer is measured, and there was inconsistency across the state as how municipalities interpreted the measurement. The recently promulgated regulations specify at 935 CMR 500.110(3)(a): “...The buffer zone distance of 500 feet shall be measured in a straight line from the geometric center of the Marijuana Establishment Entrance to the geometric center of the nearest School Entrance, unless there is an Impassable Barrier within those 500 feet; in these cases, the buffer zone distance shall be measured along the center of the shortest publicly-accessible pedestrian travel path from the geometric center of the Marijuana Establishment Entrance to the geometric center of the nearest School Entrance...”. The amendment includes a reference to this section of the regulations.

Amend SECTION 2:

Marijuana Delivery-Only Retailer: An entity licensed by the Massachusetts Cannabis Control Commission to deliver directly to consumers from a Marijuana Retailer or a Medical Marijuana Treatment Center and that does not provide a retail location accessible to the public.

Marijuana Establishment: A Marijuana Cultivator, Craft Marijuana Cooperative, Marijuana Product Manufacturer, Marijuana Retailer, Marijuana Delivery-Only Retailer, Independent Testing Laboratory, Marijuana Research Facility, or any other type of licensed marijuana-related

business except not a Medical Marijuana Treatment Center, also known as a Registered Marijuana Dispensary or RMD.

Marijuana Microbusiness: A co-located Marijuana Establishment that can be either a Tier 1 Marijuana Cultivator or Product Manufacturer or both, pursuant to 935 CMR 500.00, in compliance with the operating procedures for each license, and if in receipt of a Delivery Endorsement issued by the Cannabis Control Commission, may deliver Marijuana or Marijuana Products produced at the licensed location directly to consumers in compliance with establish regulatory requirements for retail sale as it relates to delivery. A Microbusiness that is a Marijuana Product Manufacturer may purchase no more than 2,000 pounds of marijuana per year from other Marijuana Establishments, pursuant to 935 CMR 500.00.

Marijuana Production Facility: An establishment authorized to cultivate, manufacture, process or package marijuana products, in accordance with applicable state laws and regulations. A Marijuana Production Facility may be licensed to operate as a Marijuana Microbusiness, Marijuana Cultivator or Marijuana Product Manufacturer, or registered as Medical Marijuana Treatment Center (also known as a Registered Marijuana Dispensary or RMD), or a co-located medical and non-medical establishment, in accordance with applicable state laws and regulations.

Marijuana Retailer: An entity licensed to purchase and transport Marijuana Products from Marijuana Establishments and to sell or otherwise transfer this product to Marijuana Establishments and to consumers. ~~Retailers are prohibited from off-site delivery of Marijuana Products to consumers; and from offering Marijuana Products for the purposes of on-site social consumption on the premises of a Marijuana Establishment.~~ A Marijuana Retailer can deliver Marijuana or Marijuana Products to consumers in accordance with the regulations at 935 CMR 500.00. A Marijuana Retailer may not allow on-site social consumption by consumers on the premises of the Marijuana Establishment.

Marijuana Use: A Marijuana Production Facility (See “Marijuana Cultivator”, “Marijuana Product Manufacturer”, “Marijuana Microbusiness”, and “Marijuana Production Facility”), Marijuana Research and Testing Facility (See “Independent Testing Laboratory” and Marijuana Research Facility”), Marijuana Retailer, Marijuana Delivery-Only Retailer, or Medical Marijuana Treatment Center as defined in this Zoning Bylaw.

Medical Marijuana Treatment Center: ~~An establishment registered with the Commonwealth pursuant to 105 CMR 725.100,~~ An entity licensed under 935 CMR 501.101, also known as a “registered marijuana dispensary” (RMD), that acquires, cultivates, possesses, processes (including development of related products such as ~~food~~ edibles, marijuana-infused products, tinctures, aerosols, oils, or ointments), repackages, transfers, transports, sells, ~~offers for sale,~~ distributes, delivers, dispenses, or administers marijuana, products containing marijuana, related supplies, or educational materials to registered qualifying patients or their personal caregivers for medical ~~use~~ purposes in accordance with applicable state laws and regulations. Unless otherwise specified, Medical Marijuana Treatment Center refers to the site(s) of dispensing, cultivation, and preparation of cannabis or marijuana for medical use.

Amend SECTION 5.5.3.:

Retail	B1	B2	B2A	B3	B4	B5
<u>Marijuana Delivery-Only Retailer</u>					<u>SP</u>	

Amend SECTION 5.6.3.:

Retail	MU	PUD	I	T	OS
<u>Marijuana Delivery-Only Retailer</u>			<u>SP</u>		

Amend SECTION 8.3:

8.3 Standards for Marijuana Uses

For all marijuana uses, the following standards apply:

A. General

- (1) Marijuana Establishments and Medical Marijuana Treatment Centers shall be allowed only after the granting of an Environmental Design Review Special Permit by the Arlington Redevelopment Board, subject to the requirements of Section **Error! Reference source not found.** and this Section.
- (2) Marijuana Retailers, Marijuana Delivery-Only Retailers, and Marijuana Production Facilities, as defined in **Error! Reference source not found.**, may be established to provide Marijuana Products for medical use, non-medical use, or both, in accordance with applicable state laws and regulations.
- (3) Marijuana Establishments and Medical Marijuana Treatment Centers shall be located only in a permanent building and not within any mobile facility, with the exception that Marijuana Microbusiness with a Delivery Endorsement and Marijuana Delivery-Only Retailers may conduct mobile deliveries in accordance with 935 CMR 500.000. All sales, cultivation, manufacturing, and other related activities shall be conducted within the building, except in cases where home deliveries are authorized to serve qualified medical marijuana patients pursuant to applicable state and local regulations and except that Marijuana Microbusiness with a Delivery Endorsement and Marijuana Delivery-Only Retailers may conduct sales in accordance with 935 CMR 500.000.
- (4) Marijuana Production Facilities shall not be greater than 5,000 square feet in gross floor area, and shall be licensed as a Marijuana Microbusiness if Marijuana Products are cultivated or produced for non-medical use.
- (5) A Marijuana Retailer or Marijuana Production Facility that has previously received an Environmental Design Review Special Permit from the Arlington Redevelopment Board for a Medical Marijuana Treatment Center shall be required to amend its previously issued Special Permit to authorize the conversion to or co-location of a Marijuana Establishment for the non-medical use of marijuana.

B. Location

- (1) Pursuant to 935 CMR 500.110, Marijuana Establishments shall not be permitted within 500 feet of a pre-existing public or private school providing education in kindergarten or any of grades one through 12. This standard also applies to Medical Marijuana Treatment Centers not already permitted by the date of this bylaw.
- (2) Marijuana Establishments and Medical Marijuana Treatment Centers, not already permitted by the date of this bylaw, shall not be located within 300 feet of Town-owned playgrounds and recreational facilities and 200 feet of public libraries, unless a finding of the Arlington Redevelopment Board determines that the location, based on site-specific

factors, or if the Applicant demonstrates, to the satisfaction of the Arlington Redevelopment Board, that proximity to the aforementioned facilities will not be detrimental based upon criteria established in 3.3.3 and 3.3.4.

- (3) A Marijuana Retailer shall not be permitted within 2,000 feet of another Marijuana Retailer; A Medical Marijuana Treatment Center shall not be permitted within 2,000 feet of another Medical Marijuana Treatment Center.
- (4) The distances referred to in this section shall be measured as defined in 935 CMR 500.110(3)(a).

C. Cap on the number of Special Permits for Marijuana Retailers

- (1) The Arlington Redevelopment Board shall not grant a special permit if doing so would result in the total number of Marijuana Retailer licenses to exceed a maximum of three.

Article 28 **ZONING BYLAW AMENDMENT/ AFFORDABLE HOUSING REQUIREMENTS**

To see if the Town will vote to amend the Zoning Bylaw to increase the time during which the affordable housing requirements apply from a two-year period to a three-year period in alignment with G.L. c.40A § 9 by amending SECTION 8.2.2. APPLICABILITY; or take any action related thereto.

(Inserted at the request of the Redevelopment Board)

Background

Section 30 of Chapter 219 of the Acts of 2016 broadened Chapter 40A, § 9, by extending the term of Special Permit from two years to three years. When this law was passed, the goal was to provide more flexibility in construction schedules to adapt to changing economic, labor, and market conditions without having to seek an extension from the special permit granting authority.

The Zoning Bylaw in Section 3.3.5.B references the correct three-year term in accordance with this law, which was updated as part of the Zoning Bylaw recodification completed in 2018. Section 8.2 continues to reference the two-year term of special permits and should be updated to be consistent with Chapter 40A Section 9.

Amend SECTION 8.2.2.:

8.2.2. Applicability

The provisions of this Section 8.2 shall apply to all new residential development with six or more units subject to Section 3.4, Environmental Design Review, comprised of any or all of the following uses:

- Single-family detached dwelling
- Two-family dwelling
- Duplex dwelling
- Three-family dwelling
- Townhouse structure
- Apartment building
- Apartment conversion
- Single-room occupancy building

Any residential development of the uses listed above involving one lot, or two or more adjoining lots in common ownership or common control, for which special permits or building permits are sought within a ~~two-year~~ three-year period from the first date of special permit or building permit application shall comply with the provisions of this Section 8.2.

Article 29

ZONING BYLAW AMENDMENT/ APARTMENT CONVERSION

To see if the Town will vote to amend the Zoning Bylaw to include a definition of apartment conversion by amending SECTION 2 DEFINITIONS; or take any action related thereto.

(Inserted at the request of the Redevelopment Board)

Background

Apartment conversion is a use listed in the Table of Uses, but has no definition associated with it, although there are standards listed in the Table of Uses: "Conversion to apartments, up to 18 units per acre, with no alteration to the exterior of the building." Apartment conversion is allowed with a Special Permit in the R4 and R5 districts and the B1 district.

Apartment conversions are referenced in the description of the R4 Townhouse District. Section 5.4.1.B(1) notes that "the predominant uses in the R4 district are one- and two-family dwellings in large, older houses. Conversions of these old homes to apartments or offices are allowed to encourage their preservation." The description of the B1 Neighborhood Office District also references the predominant uses as one- and two-family dwellings.

Using these clues in the Zoning Bylaw, we crafted a definition that references the conversion of a structure originally designed for one- and two-family use with no exterior addition or expansion to the exterior of the structure.

Amend SECTION 2:

Apartment Conversion: The conversion of an existing structure originally designed for one-family or two-family use to an apartment building with no addition to or expansion of the exterior of the structure.

ARTICLE 30

ZONING BYLAW AMENDMENT/ GROSS FLOOR AREA

To see if the Town will vote to amend the Zoning Bylaw to clarify how landscaped and usable open space is calculated relative to gross floor area by amending SECTION 5.3.22. GROSS FLOOR AREA to add subsection C; or take any action related thereto.

(Inserted at the request of the Redevelopment Board)

Background

In the pre-recodification Zoning Bylaw, there was a reference in the Table of Density and Dimensional Regulations that noted the landscaped and usable open space requirements are a percentage of gross floor area. This note was not carried through to the recodified Zoning Bylaw, however providing this clarification would be helpful for applicants and consultants reviewing the Zoning Bylaw.

As such, we propose amendments to the definitions of Landscaped Open Space and Usable Open Space. An additional amendment is proposed in Section 5.3.22, Gross Floor Area, to identify the standard by which these two requirements are calculated.

Amend SECTION 5.3.22.:

5.3.22. Gross Floor Area

- A. For the purposes of this bylaw, the following areas of buildings are to be included in the calculation of Gross Floor Area:
- (1) Elevator shafts and stairwells on each floor;
 - (2) Attic areas with headroom, measured from subfloor to the bottom of the roof structure, of seven feet ~~three inches~~ or more, except as excluded in (4) below;
 - (3) Interior mezzanines;
 - (4) Penthouses;
 - (5) Basement areas except as excluded in (2) below;
 - (6) Cellars in residential uses;
 - (7) All-weather habitable porches and balconies; and
 - (8) Parking garages except as excluded in (1) below.
- B. For the purposes of this bylaw, the following areas of buildings are to be excluded from the calculation of Gross Floor Area:
- (1) Areas used for accessory parking, or off-street loading purposes;
 - (2) Basement areas devoted exclusively to mechanical uses accessory to the operation of the building;
 - (3) Open or lattice enclosed exterior fire escapes;
 - (4) Attic and other areas used for elevator machinery or mechanical equipment accessory to the operation of the building; and
 - (5) Unenclosed porches, balconies, and decks.
- C. For the purposes of this bylaw, the district dimensional requirements for Usable Open Space and Landscaped Open Space are calculated based on Gross Floor Area.

Amend SECTION 2:

Open Space, Landscaped: Open space designed and developed for pleasant appearance in trees, shrubs, ground covers and grass, including other landscaped elements such as natural features of the site, walks and terraces, and also including open areas accessible to and developed for the use of the occupants of the building located upon a roof not more than 10 feet above the level of the lowest story used for dwelling purposes. Refer to Section 5.3.22.C. for on how to calculate landscaped open space.

Open Space, Usable: The part or parts of a lot designed and developed for outdoor use by the occupants of the lot for recreation, including swimming pools, tennis courts, or similar facilities, or for garden or for household service activities such as clothes drying; which space is at least 75% open to the sky, free of automotive traffic and parking, and readily accessible by all those for whom it is required. Such space may include open area accessible to and developed for the use of the occupants of the building, and located upon a roof not more than 10 feet above the level of the lowest story used for dwelling purposes. Open space shall be deemed usable only if at least 75% of the area has a grade of less than 8%, and no horizontal dimension is less than 25 feet. For newly constructed single-, two-family, and duplex dwellings with surface parking, no horizontal dimension shall be less than 20 feet. Refer to Section 5.3.22.C. for on how to calculate usable open space.

ARTICLE 31

ZONING BYLAW AMENDMENT/ PROHIBITED USES

To see if the Town will vote to amend the Zoning Bylaw to indicate that uses without a “Y” or “SP” in the Tables of Uses are prohibited by amending SECTION 5.2.2. PROHIBITED USES to add subsection C; or take any action related thereto.

(Inserted at the request of the Redevelopment Board)

Background

An additional paragraph is proposed in Section 5.2.2., Prohibited Uses, that indicates that a use without a “Y” (Yes, use allowed) or “SP” (Special Permit required) is a use that is not permitted unless it is authorized elsewhere in the bylaw.

Amend SECTION 5.2.2.:

5.2.2. Prohibited Uses

- A. Any use not listed in the Tables of Uses for various districts in Section 5 or otherwise allowable under the provisions of this Bylaw is prohibited.
- B. All uses that pose a present or potential hazard to human health, safety, welfare, or the environment through emission of smoke, particulate matter, noise or vibration, or through fire or explosive hazard, or glare, are expressly prohibited in all districts.
- C. Any use not designated with a “Y” (Yes, use allowed) or “SP” (Special Permit required) in the Tables of Uses for various districts is prohibited in that district, unless otherwise authorized by this bylaw.

ARTICLE 32

**ZONING BYLAW AMENDMENT/
OTHER DISTRICTS DIMENSIONAL AND DENSITY REGULATIONS**

To see if the Town will vote to amend the Zoning Bylaw to include the legend for tables by amending SECTION 5.6.2. DIMENSIONAL AND DENSITY REGULATIONS; or take any action related thereto.

(Inserted at the request of the Redevelopment Board)

Background

Sections 5.4.2. and 5.5.2. include a legend to assist in interpreting the shorthand notations in the tables. This amendment carries this legend to Section 5.6.2 for the MU, I, T, PUD, and OS Districts.

Amend SECTION 5.6.2.:

5.6.2. Dimensional and Density Regulations

The dimensional and density requirements in this Section apply to principal and accessory uses and structures in the MU, I, T, PUD, and OS districts. Additional dimensional and density regulations affecting all districts can be found in Section 5.3.

LEGEND FOR TABLES

Sq.ft. Square feet

ft Feet

L Length

H Height

W Width

ROW Right-of-Way

SP Special Permit

Y Yes (use allowed)

ARTICLE 33 ZONING BYLAW AMENDMENT/ADMINISTRATIVE AMENDMENTS

To see if the Town will vote to amend the Zoning Bylaw to make the following administrative corrections;

1. Correcting references to Board of Selectmen in subparagraph B of SECTION 3.1.4. PENALTY and in Section 3.2.1. ESTABLISHMENT;
2. Removing gendered terms in subparagraph A of SECTION 3.2.3. RULES AND REGULATIONS and subparagraph D of SECTION 6.2.7. NONCONFORMING SIGNS;
3. Correcting reference to August, 1975 in subparagraphs C and D in SECTION 5.4.2. DIMENSIONAL AND DENSITY REQUIREMENTS;
4. Correcting reference to Section 7 in SECTION 3.3.4.A SPECIAL PERMIT CONDITIONS; and
5. Correcting reference to seven feet three inches in subsection A(1) in SECTION 5.3.22. APPLICABILITY;

or take any action related thereto.

Background

This article proposes specific administrative corrections including: updating references to the Select Board, removing gendered terms in the Zoning Bylaw, inserting a date, updating a section reference, and making a cross reference update consistent with an article passed at the 2019 ATM.

Amend SECTION 3.1.4.B:

- B. The Building Inspector may, with the approval of the ~~Board of Selectmen~~ Select Board, institute the appropriate criminal action or proceeding at law or in equity to prevent any unlawful action, use or condition, and to restrain, correct or abate such violation. Penalties for violations may, upon conviction, be affixed in an amount not to exceed three-hundred dollars (\$300.00) for each offense. Each day, or portion of a day, in which a violation exists shall be deemed a separate offense.

Amend SECTION 3.2.1.:

3.2.1. Establishment

There shall be a Zoning Board of Appeals ("Board of Appeals") consisting of five members and two associate members appointed by the ~~Board of Selectmen~~ Select Board. All members of the Board of Appeals shall be Arlington residents, one member shall be an attorney-at-law, and at least one of the remaining members shall be a registered architect or a registered professional engineer. The appointment, service, and removal or replacement of members and associate members and other actions of the Board of Appeals shall be as provided for in G.L. c. 40A.

Amend SECTION 3.2.3.A:

- A. The ~~Chairman~~ Chair of the Board of Appeals, or in ~~his~~ their absence the Acting ~~Chairman~~ Chair, may administer oaths, but must do so for hearings involving G.L. c. 40B, summon witnesses and call for the production of papers. All hearings shall be open to the public. The Board of Appeals and all permit and special permit granting authorities shall hold hearings and render decisions in accordance with the applicable time limitations as set forth in G.L. c. 40A § 9 and 15. The Board of Appeals shall cause to be made a detailed record of its proceedings which in the case of G.L. c. 40B hearings shall require that all testimony be electronically recorded, showing the vote of each member upon each question, or if absent or failing to vote, indicating such fact, and setting forth clearly the reasons for its decisions, and of its other official actions, copies of

all of which shall be filed within 14 days in the office of the Town Clerk and the office of the Arlington Redevelopment Board and shall be a public record, and notice or decisions shall be mailed immediately to the petitioner and to the owners of all property deemed by the Board of Appeals to be affected thereby, including the abutters and the owners of land next adjoining the land of the abutters, notwithstanding that the abutting land or the next adjoining land is located in another city or town, as they appear on the most recent local tax list, and to every person present at the hearing who requests that notice be sent to ~~him~~ them and states the address to which such notice is to be sent. Upon the granting of a limited or conditional zoning variance or special permit, the Board of Appeals shall issue to the land owner a notice, certified by the ~~chairman~~ chair or clerk, containing the name and address of the land owner, identifying the land affected, and stating that a limited or conditional variance or special permit has been granted which is set forth in the decision of the Board on file in the office of the Town Clerk. No such variance or permit shall take effect until such notice is recorded in the Middlesex County Registry of Deeds.

The fee for recording such notice shall be paid by the owner and the notice shall be indexed in the grantor index under the name of the owner of record.

The concurring vote of all members of the Board shall be necessary to reverse any order or decision of any administrative official, or to decide in favor of the applicant on any matter upon which it is required to pass under this Bylaw, or to effect any variance in the application of this Bylaw.

Amend SECTION 6.2.7.D:

- D. Removal of a nonconforming sign, or replacement of a nonconforming sign with a conforming sign, is required when the use of the sign and/or the property on which the sign is located has been abandoned, ceased operations, become vacant, or been unoccupied for a period of 180 consecutive days or more as long as the period of non-use is attributable at least in part to the property owner, tenant, or other person or entity in control of the use. For purposes of this Section, rental payments or lease payments and taxes shall not be considered as a continued use. In the event this should occur, these conditions will be considered as evidence of abandonment, requiring removal of the nonconforming sign by the owner of the property, ~~his/her~~ their agent, or person having the beneficial use of the property, building or structure upon which the nonconforming sign or sign structure is erected within 30 days after written notification from the Building Inspector. If, within the 30-day period, the nonconforming sign is not removed, enforcement action consistent with Section 3.1 shall be pursued.

Amend SECTION 5.4.2.:

- C. One exception is made for attached single-family dwellings on Sunnyside Avenue, Gardner Street, Silk Street, Marrigan Street, and Fremont Street. Attached single-family dwellings existing in August 28, 1975, on these streets are permitted as a right.
- D. In the R0, R1 and R2 districts no new licensed nursing home, rest home, convalescent home facilities shall be constructed except at sites whereon these facilities existed as of August 28, 1975. These existing facilities may be reconstructed to meet code requirements in accordance with a special permit under 3.3 and 3.4.

Amend SECTION 3.3.4.A:

- E. Dimensional standards more restrictive than those set forth in ~~Section 7~~ Section 5 of this Bylaw;

Amend SECTION 5.3.22.A(2):

- A. For the purposes of this bylaw, the following areas of buildings are to be included in the calculation of Gross Floor Area:
- (1) Elevator shafts and stairwells on each floor;
 - (2) Attic areas with headroom, measured from subfloor to the bottom of the roof structure, of seven feet ~~three inches~~ or more, except as excluded in (4) below;
 - (3) Interior mezzanines;
 - (4) Penthouses;
 - (5) Basement areas except as excluded in (2) below;
 - (6) Cellars in residential uses;
 - (7) All-weather habitable porches and balconies; and
 - (8) Parking garages except as excluded in (1) below.

Supporting Information for Article 39 of the 2021
Annual Town Meeting of the Town of Arlington
Submitted by Christopher Loreti
February 23, 2021

ARTICLE 39 ZONING BYLAW AMENDMENT/ CLARIFICATION OF DEFINITION OF MIXED USE

To see if the Town will vote to amend the definition of Mixed Use in the Zoning Bylaw to clarify that as enacted by Town Meeting, land uses individually prohibited in any particular zoning district are also prohibited as part of Mixed Use developments in the same zoning district; or take any action related thereto. (Inserted by the Redevelopment Board at the request of Christopher Loreti and 10 registered voters)

PROPOSED VOTE:

That the definition of "Mixed-Use" in Section 2 of the Town of Arlington Zoning Bylaw is hereby amended by inserting immediately before the concluding period the words:

"provided that any such distinct land uses are not otherwise prohibited by this bylaw as individual land uses in the same zoning district" such that the revised definition reads in its entirety:

Mixed-Use: A combination of two or more distinct land uses, such as commercial, lodging, research, cultural, artistic/creative production, artisanal fabrication, residential in a single multi-story structure to maximize space usage and promote a vibrant, pedestrian-oriented live-work environment provided that any such distinct land uses are not otherwise prohibited by this bylaw as individual land uses in the same zoning district.

REASON FOR THIS AMENDMENT:

When Town Meeting voted to adopt the mixed-use zoning amendment in 2016, it did not grant the ARB the discretion to allow in mixed-use developments uses that are prohibited individually in the same district. Two ARB members made this very clear multiple times before the vote. See:

- Attachment 1, excerpts from the certified transcript of the 2016 Annual Town Meeting previously submitted to the ARB.
- Video excerpts from the same Town Meeting, <https://youtu.be/1vDEkBYqFOw>
- And the entire Town Meeting debate on the article: <https://youtu.be/mz82YS4p2Ow?t=2606>

In making these statements, the ARB was saying that a similar amendment I submitted at the time was unnecessary. The ARB could not interpret the definition of mixed use to allow otherwise prohibited uses within a zoning district. Town Counsel and the Head of Inspectional services were cited as agreeing with this interpretation, and my amendment was not adopted.

It is important for Town Meeting Members (and others) to understand that Town Meeting is the ultimate decider as to whether a land use is allowed by right (that is, without a special permit), whether it is prohibited, or whether it may be allowed by special permit—that is whether it can be allowed by a vote of the Zoning Board of Appeals or the Redevelopment Board. These decisions are codified in the Table of Use Regulations. Neither the ZBA nor the ARB has the authority to unilaterally change a use from the prohibited to the special permit category.

Unfortunately, since the 2016 vote, the ARB has reversed the representations it made to Town Meeting, and adopted the absurd position that prohibited uses can be allowed within a zoning district as long as they are part of a mixed use development. The ARB now claims it need only issue a special permit for the mixed use containing the prohibited use.

In addition to being completely contrary to the representations made to Town Meeting at the time the mixed-use bylaw was passed, this interpretation conflicts with other provisions of the Zoning Bylaw that require a use be listed as a Special Permit use in order for a Special Permit to be granted.

The ARB has already been sued once as a result—by the abutters of the proposed Hotel Lexington—which the ARB allowed on one lot where hotels are prohibited. While this case was dismissed on procedural grounds, the judge accepted as true the contention that the ARB represented to Town Meeting that prohibited uses could not be allowed as part of mixed-use projects, writing: *Notwithstanding these assurances, the Board issued the decision that approves a hotel to be constructed on a parcel that is partially within the B2 zoning district, even though hotels are not allowed in that district.* Similar suits can be expected in the future.

In summary, the ARB and Town Meeting should support this amendment because it:

- Confirms the intention of Town Meeting in passing the mixed-use bylaw amendment in 2016
- Recognizes that Town Meeting, not the ARB, has the ultimate authority to designate prohibited land uses within the town's zoning districts
- Eliminates the absurd inconsistency that the ARB has created by allowing prohibited uses within mixed-use developments while the exact same uses are prohibited on their own
- Reduces the chance of future litigation

ATTACHMENTS:

Attachment 1_2016 ATM Article 6 Transcript Submitted by C. Loreti 1-27-20.pdf

Documentation in Support of the Testimony of Christopher
Loreti for the Arlington Redevelopment Board Hearing on
Special Permit Docket #3602
(1207-1211 Massachusetts Avenue)

January 27, 2020

The attached pages are excerpts from the certified transcript of Article 6 of the April 25, 2016 Annual Town Meeting, which amended Arlington's Zoning Bylaw to allow mixed-use developments. These excerpts demonstrate that at least three times members of the Arlington Redevelopment Board (Chair Andrew Bunnell and then member Michael Cayer) testified that only uses individually allowed in a zoning district could be permitted as part of a mixed-use development in the same zoning district. Thus a hotel use, which is not allowed in the B2 zoning district, cannot be permitted as part of a mixed-use development in the B2 zoning district as proposed in Docket 3602. See statements in brackets followed by an asterisk on pages 48, 50, and 67.

I respectfully request that this documentation be entered into the public record for this docket as part of this public hearing.

A handwritten signature in cursive script, reading "Christopher Loreti". The signature is written in dark ink on a white background.

TOWN OF ARLINGTON
ANNUAL TOWN MEETING

MONDAY, APRIL 25, 2016

Session 1

Robbins Memorial Town Hall Auditorium

730 Massachusetts Avenue

Arlington, Massachusetts 02476



CAMBRIDGE TRANSCRIPTIONS

675 Massachusetts Avenue

Cambridge, MA 02139

(617) 547 -- 5690

www.ctran.com

1 I live on Lombard Terrace, close to three blocks, two long
2 blocks from Mass. Ave. I'll be voting against this, I
3 believe. But I'd like to say a few things. I think it's
4 dreadful that we're presented with all these changes as one
5 article. Some I would vote for, some I would vote against.
6 I attended at least one of the meetings about this,
7 approximately a week and a half or two weeks ago. I find
8 all this difficult to absorb, and it's too multifaceted for
9 me to swallow one vote. And that's part of the reason why
10 I would vote no. I would recommend that ARB postpone the
11 vote to give people another vote, at least to give us time
12 to want to vote yes. But as it is, tonight I would vote
13 no.

14 What is the neighborhood business district?
15 There's a paragraph in this thing about a neighborhood
16 business district, and I'm wondering -- I read it but --

17 MR. JOHN LEONE: Ms. Weiner? Or Mr. Bunnell
18 (Indiscernible)

19 MR. ANDREW BUNNELL: The feature of the
20 neighborhood district, business district --

21 MR. JOHN LEONE: Introduce yourself.

22 MR. ANDREW BUNNELL: Andrew Bunnell, Chair of the
23 Redevelopment Board. If you could bring out my slides
24 again, I could point out where that is on the map.

25 (Indiscernible). It's a little unclear on the map, but the

1 second line [on our key here is B2, neighborhood business
2 district. And these are interspersed throughout town.
3 They are traditionally small businesses, districts with
4 smaller businesses.

5 You won't see major developments going in in this
6 kind of a district. It usually comes into a neighborhood -
7 - it has to comply with what's already permitted in that
8 district.] * And it also has to be within the character of
9 the neighborhood. And part of the reason that the ARB has
10 decided to keep special permit review over this is so that
11 we can be assured that we're protecting neighborhoods from
12 being overrun and seeing that "Palo Alto effect" that the
13 other speaker talked about. It is important to us that
14 there is some review over these projects from the
15 beginning, so that we're not seeing monstrosities coming to
16 town, and seeing the kinds of things that people don't
17 want.

18 It is an open process, the special permit is a
19 collaborative, open process where people do have the
20 opportunity to come in and speak their case, and advise the
21 ARB on how we should be voting and what projects we should
22 be looking at, what projects we should say, maybe time to
23 go back to the drawing board and come back with something a
24 little more appropriate for the neighborhood and for the
25 use that you're requesting.

1 MR. ANDREW FISCHER: -- and the answer was yes,
2 so I def --

3 MR. ANDREW BUNNELL: Well, that's actually not
4 true. [Mixed use is any use that would be more than one
5 use. It can't be sold as residential. Again, it has to
6 fit with a permitted use; a parking garage won't be
7 permitted in there, because a parking garage isn't
8 permitted. A residential on top of a gas station won't be
9 permitted if that use is not already permitted. It has to
10 fit what's already allowed under zoning,*] and it has to fit
11 within the character of the neighborhood being considered.

12 MR. JOHN LEONARD: At any rate, I would support
13 Mr. Loreti's amendment, for the reason I just said. And
14 the other reason I'm going to vote no is that I can't find
15 anybody that wants higher density in the town, not in my
16 precinct, anyway, when I talk with people. And the theory
17 that we're obligated to go higher and higher density
18 because of the world and greenness, I don't buy it. I
19 happen to think we're at optimal density right now. I
20 think we've already done more than our job. There are
21 equally valid reasons to say high density is not healthy.
22 So, that's my feeling then. I would repeat everything that
23 the previous speaker also said. Thank you.

24 MR. JOHN LEONE: Thank you very much. Mr.
25 Worden.

1 it that said "5,000." There wasn't any intent to change
2 that. So, instead of the dash, the scrivener's error that
3 we've corrected now with the Town Clerk and provided to the
4 Clerk and the Moderator, is to change that dash to a
5 "5,000." So, hopefully, that's clear.

6 MR. JOHN LEONE: If you'll all make that change
7 administratively to your report, we'll just go with it as
8 we proceed. Go ahead, Mr. Cayer.

9 MR. MIKE CAYER: Thank you. So, I want to start
10 by saying, zoning is hard. It's hard and we do it first,
11 which, frankly, I think is a disservice to both zoning and
12 for helping the town move some of these things forward.

13 But, be that as it may, that's what we're doing.
14 We're here tonight to talk about Articles 6 and 7,
15 hopefully, eventually.

16 [So, the first thing I want to talk about is
17 correct a couple of things that were talked about earlier.
18 There was a statement made that said that any commercial
19 use can be snuck in to the mix -- the definition that's
20 been put forth before you, in a mixed use development. So,
21 you know, you can put a meat-processing plant on the first
22 floor if you so choose, and if those rascals on the
23 Redevelopment Board approve it, then you're going to have a
24 meat-packing plant on the first floor.

25 That's not correct. We've worked with both the

1 Inspectional Services, the head of Inspectional Services,
2 as well as Town Counsel on the wording that's before you.
3 And only the uses that are permitted in a particular
4 district are the ones that can happen in a mixed use in
5 that district. So, just to clarify on that point.] *

6 The second point I want to bring up is, with
7 respect to height, I think we've clarified a few things
8 with respect to height. But I want to clarify two others.

9 Number one is, is, you've heard some people talk
10 about a four-story buffer, okay? What that is, is what
11 we're really talking about there is if a proposed mixed use
12 is next to resident, then, instead of being five stories,
13 you can only build four. That's a buffer zone, okay? You
14 cannot go all the way up, and what's already in there stays
15 in there, okay? It's only in the more commercial spine,
16 where you've got other big buildings around you, that
17 you'll be able to go to the maximum height.

18 Now, the important thing on this, though, is that
19 what this does is it actually, from the streetscape, limits
20 the height of the buildings even further down, because what
21 you've also heard is about stepbacks. And a stepback means
22 that as you go up to that fifth floor, or as you go above
23 three, you have to move those next floors back seven and a
24 half feet. So that from the streetscape now, you're only
25 going to see three stories.

C E R T I F I C A T E

I, Buchanan Ewing, do hereby certify that the foregoing transcript is a true and accurate record of the aforementioned matter prepared to the best of our knowledge, skill, and ability.



Buchanan Ewing

6/2/16

Date

Notary Public No. 17610 DNP

My commission expires June 15, 2018

CAMBRIDGE TRANSCRIPTIONS

Approved Court Transcriber

Memorandum to the Redevelopment Board – Article 40, 2021 Town Meeting

This is the text of Article 40, with the proposed new language embedded:

ARTICLE 40 ZONING BYLAW AMENDMENT/CONVERSION OF

COMMERCIAL TO RESIDENTIAL To see if the Town will vote to amend the Zoning Bylaw in Section 5.2.4, by inserting in the last sentence of said section, after the word footprint, the words “if allowed by special permit” and by inserting, after the words residential use, the words “provided that the addition or expansion is for affordable housing” so that said sentence will read as follows: In the case of an existing commercial use, the addition or expansion of residential use within the building footprint if allowed by special permit shall not require adherence to setback regulations for residential uses, provided that the addition or expansion is for affordable housing, even if the residential use becomes the principal use of the building; or take any action related thereto.

The rationale for this amendment was summarized in the comment appended to the original warrant article, which read as follows:

The law as it presently stands; a mixed use building with its minimal setbacks could be converted entirely into residential use by right. Since the only kind of additional housing that Arlington needs is affordable housing, ability to do that would be limited under this amendment and subject to public review.

This had become all the more urgent since the Redevelopment Board, contrary to their strong promises made at the 2016 Town Meeting when mixed use was approved, has seen fit to allow exactly what I warned about in support of an amendment (not approved by the Meeting) to establish some rules. What I said proved, unhappily, to be true – they will approve an apartment building with one little shop in the corner and call it mixed use. That is exactly what happened with that oversized building on Sumner Street, the one you approved opposite the high school, and the one you are (I guess) about to approve at 1500 Massachusetts Avenue. Where is the ground floor of vibrant commercial uses to serve the residents above and nearby?

This amendment would at least allow some consideration of whether to preserve the token commercial use under these mixed use developments which are essentially apartment buildings where they don’t belong on lots that are too small,

with few of the minimal setbacks and parking requirements that straightforward 100% apartment buildings would require. If residential use is to be increased, at least it should serve a social purpose – affordable housing.

John L. Worden III

Town Meeting Member
Precinct 8



Town of Arlington, Massachusetts

Board members will review MOU and authorize Director to proceed with tenancy

Summary:

9:55 p.m. 23 Maple Street - Memorandum of Understanding between Town of Arlington (Department of Public Works and Department of Inspectional Services) and Arlington Redevelopment Board



Town of Arlington, Massachusetts

Correspondence received:

Summary:

D. Seltzer 2-25-21 with attachment - Novus Agenda does not support the video file that was attached.

ATTACHMENTS:

	Type	File Name	Description
▢	Reference Material	Correspondence_from_D._Seltzer_received_2-25-21.pdf	Correspondence from D. Seltzer received 2-25-21

From: Don Seltzer <timoneer@gmail.com>
To: rzsembly@town.arlington.ma.us
Cc: David Watson <DWatson@town.arlington.ma.us>, Eugene Benson <EBenson@town.arlington.ma.us>, KLau@town.arlington.ma.us, MTintocalis@town.arlington.ma.us, Jenny Raitt <jrait@town.arlington.ma.us>, Erin Zwirko <EZwirko@town.arlington.ma.us>
Date: Thu, 25 Feb 2021 13:21:22 -0500
Subject: Correspondance in support of Article 34, Clarifying Zoning Bylaw Definition of Mixed Use

CAUTION: This email originated from outside of the Town of Arlington's email system. Do not click links or open attachments unless you recognize the REAL sender (whose email address in the From: line in "< >" brackets) and you know the content is safe.

To: Arlington Redevelopment Board

Often the Board has had to cope with bylaw language that is somewhat ambiguous or even contradictory, placing the Board members in the position of trying to determine the intent of the original framers.

Article 34, *Clarifying Zoning Bylaw Definition of Mixed Use*, addresses such an ambiguity. In this case, the intent of the original authors is easily determined. Mixed use was added to our zoning bylaw at the 2016 Town Meeting, and there is a complete video record of the presentation and discussion.

Two members of the previous Redevelopment Board made the presentation and answered questions from Town Meeting Members. The concern of Town Meeting Members regarding what uses would be allowed was evident. Over and over the Redevelopment Board members explained that “*only the uses that are permitted in a particular district are the ones that can happen in a mixed-use in that district.*”

Most of the current Board members were not serving at that time and may not be familiar with this history. Attached is a video clip that summarizes this part of the Town Meeting deliberations.

The limitation on uses couldn't have been clearer, and that was what Town Meeting voted to approve. Yet a few years later the Board became uncertain about this intent and it was suggested that the actual language of the bylaw was flawed and sufficiently ambiguous that any uses without restriction could be part of Mixed Use in any business district.

Such an interpretation is diametrically opposite of what was promised to Town Meeting. It is the duty of this Board to fix the problem, and to amend the language of the Bylaw to reflect what Town Meeting actually approved in 2016. To shirk that duty and recommend No Action will cause great harm to the credibility of this Board when it speaks at future Town Meetings.

Don Seltzer
Irving St